STRATEGIES AND ADAPTATIONS FOR ADJUSTING TO CHANGES IN SOURCES OF REVENUES AT SELECTED COMMUNITY COLLEGES

By

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To my mother and father,
Donald and Jennie Vader.

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The purpose of this study was to examine the nature and extent of changes in sources of revenues at community colleges and to identify the strategies and adaptations implemented by selected community colleges in order to minimize the problems related to the revenue changes. The population for the study consisted of the 18 community college districts that are members of the League for Innovation in the Community College. Thirty-three personal interviews were conducted at three community colleges that were selected from the population for in-depth field study. In addition to the field studies, a survey was administered to the chief executive officers at all 18 of the community colleges. The survey responses, based on a 100% return rate, supported the actual practices as discovered through the field studies.

The data obtained from the survey and field studies were also used to either confirm or not confirm two postulates and eight propositions generated from a review of the related literature; nine of the ten postulates and propositions were confirmed.

The study confirmed a common assumption regarding the nature of changes in sources of revenues at community colleges: A lesser proportion of total revenues is coming from state funding sources and a greater proportion of revenues is being made up of tuition and fees. The study did not confirm that the approaches community colleges are utilizing to adjust to the revenue changes are uniform in substance or effectiveness, but rather that the strategies utilized and subsequent perceptions and degrees of effectiveness appear to be influenced by several factors. Some of the influencial factors included the leadership style of the chief executive officer, the institutional climate, and the degree of flexibility in raising revenues from other sources. Further, the study demonstrated that there is no one best way or set of generalizable guidelines to adjust to problems related to revenue changes, but rather that a variety of different responses and strategies may be most suitable for different institutions.

In addition to the conclusions of the study, a set of strategies were developed based on the results of the study which may prove useful to community colleges encountering problems similar to the problems related to revenue changes encountered by the community colleges involved in the study.

CHAPTER I
INTRODUCTION

Background and Rationale

Beginning in the 1970s, the majority of community colleges, as well as other higher educational systems, began experiencing a gradual erosion of their financial position. Major problems of the 1970s and 1980s have been caused by inflation and the accompanying increases in costs. One of the major problems facing higher education during the 1980s will be reacting to changes in sources of revenues. Community colleges in particular will be faced with major decisions regarding adjustments to revenue changes which affect budgeting, programming, and enrollment policies. In addition, these changes in priority emphases will reflect changes in institutional mission and goals. Connolly (1981) characterized the scenario as "a mild form of institutional middle age setting in," and further asserted:

> No longer is there talk of "a new community college opening every week" or proud boasts of ever-increasing enrollments. Declining enrollments have meant declining income for some institutions, and stable enrollments have produced financial atrophy elsewhere. (p. 35)

Clearly, research aimed at identifying institutional strategies that have been utilized at community colleges in order to minimize the problems attributed to changes in sources of revenues is timely as well as necessary.

The history of community college finance illustrates the dramatic shift in sources of revenue from primarily local support to increasing

percentages of state support. In 1929, state support to community colleges provided only 3 percent of current operating funds, while local support provided 46 percent (Wattenbarger & Bibby, 1981). By 1969 these distributions had shifted to 51 percent for state support and 21 percent for local support. A 1983 study (Wattenbarger & Heck, 1983) found that in 1982 state support had risen to 65 percent and local support had dwindled to 10.9 percent of current operating funds for community colleges.

In general, however, state appropriations to community colleges have increased in absolute dollars in most states each year (Martorana, Wattenbarger, & Smutz, 1978). Despite this fact, the trend has been for the average percentage growth rate in appropriations to decrease over the same period. According to Martorana et al. (1978), the following changes have occurred in community college appropriations:

> The average percentage increase was 20.1 in 1974-75, 21.9 in 1975-76, and only 12.1 in 1977.78. This decrease in the average percentage growth rate may not only mean that community college systems are not expanding but also that they may be hard pressed to maintain current services since increased costs caused by inflation and utilities costs are large in all instances. (p. 8)

In addition, a 1983 report (Magarrell) found that while state spending in fiscal year 1983 rose approximately 6 percent nationwide, it was the smallest one-year increase in state funds for colleges and universities in more than 20 years.

The situation created by the changes and decreases in resources can be attributed to primarily two factors, according to Wattenbarger (1978). The factors include the following:

> First, a reduced or static enrollment, which provides less money to the college; second, a reduced real income, resulting from inflation, increased costs of

> operation, and/or increased costs of basic items such as utilities, maintenance, and interest charges. (p. 61)

Even in instances where some institutions have not experienced decreases in amounts of dollars appropriated, a decline in the real income of the institution has occurred.

Support for equality of educational opportunity via the comprehensive community college open-door philosophy has been strongly documented by historical evidence and by noted community college authorities (Bogue, 1950; Gleazer, 1980; Koos, 1970). Ferrin (1971) cited the use of innovative and nontraditional methods by community colleges to overcome traditional barriers to higher education and to strengthen the open-door philosophy:

> The financial barrier was reduced by charging little or no tuition, the academic barrier was reduced by open door admissions policies, and the geographic barrier was reduced by locating colleges in close proximity to populated areas. (p. 31)

The original philosophy and commitment of the community college have been threatened due to the impact of changes in revenues. Gleazer's contention that community colleges have attempted to be "all things to all people" (1980, p. 7) is being questioned in an era of changes in funding and increases in demands for accountability. Cosand (1983) questioned whether or not the community college will even continue to function as a "people's college" (p. 24) and maintain a comprehensive mission:

> The colleges were given the autonomy to provide a diverse educational program of quality for the youth and adults of the community to be served. This provided an educational opportunity at minimal or no cost for all the people who were eligible to enroll regardless of their age, race, affluence, sex, or educational background. The community college was indeed a "people's college." Will this philosophy and service continue? (p. 24)

In light of the impact of changes in revenues at community colleges, administrators must examine the relationship between institutional aspirations and available resources to carry out institutional goals. Carefully considered and skillfully planned responses to revenue changes must attempt to uphold the institutional mission while becoming a part of the overall planning process of the institution. Kenneth Boulding (1975) has warned that unless educational administrators develop and utilize the skills necessary to address the challenge of changing revenues, they may find themselves in situations they are unprepared to meet. Boulding made the following observation:

> Present educational administrators have grown in a period of rapid growth and have been selected presumably because they are well adjusted to growth and capable of dealing with it. Perhaps the most serious immediate problem facing education is that many skills that were highly desirable during the last thirty years may no longer be needed in the next thirty years. (p. 5)

A study of financial statistics for community colleges was undertaken in 1983 by the National Association of College and University Business Officers (NACUBO) to ascertain what actually has happened to sources of fund revenues over the past five years. A review of the details of the report indicated that although the dollars from state appropriations have increased during the past four years, the percentage of these revenues has declined, and the decline represents the lost of substantial funds (Jenkins, 1984). Further examination of the NACUBO report shows that some colleges have been successful in expanding their revenue bases as a response to decreasing percentages of state funds and have made substantial increases in the variety of categories and amounts of funds from other sources. Therefore, the purpose of this study (i. e., to examine how some community colleges responded to the

problems created by revenue changes) proves invaluable by identifying potentially effective strategies useful to similar institutions.

The need for a financial study of this nature is also evident in a review of relevant literature. According to a 1982 doctoral survey (Yopp, 1982), community college presidents identified the most troublesome issues of concern as money, finances, and declining resources, and additionally expected the effects of inflation and resource development/grants/other external funding to consume a greater percentage of their resources during the 1980s. Further justification stems from the need to link concepts of organizational theory regarding managerial effectiveness to identification and development of effective administrative strategies for managing changes in revenues in the community college (Cameron, 1978; Goodman & Pennings, 1977; Quinn & Cameron, 1983; Whetten, 1980). Martorana and Kuhns (1975) depicted the community college as an open system capable of surviving through adaptation based on feedback from the external environment. Studies in the organizational systems literature (Griffiths, 1964; Quinn & Cameron, 1983) have found that open, living systems strive to maintain a steady state in which all counteracting influences are balanced. The theoretical basis of this study will focus on the tendency of community colleges, viewed as open, living systems, to use environmental feedback to strive towards maintaining the mission of the comprehensive community college while responding to changes in sources of revenues.

The historical development of community colleges provides an additional justification for a study in this area. Since their development in the early 1900s, community colleges have been viewed as innovative leaders in democratizing educational opportunity and providing equal

access to education. Given this democratizing mission (Koos, 1925) it may be appropriate to assume that community colleges will continue to provide effective leadership when faced with significant changes in revenues. There is a continued need for a study which represents a potential contribution to the field of educational administration through the development of guidelines for strategies that will prove useful to community college administrators when faced with revenue changes.

In summary, the tension experienced by community colleges between mission and available resources has been summarized by Richardson and Leslie (1980) in The Impossible Dream? Financing Community Colleges Evolving Mission? The legitimacy and potential of the community college mission in light of changes in resources were discussed in this monograph:

> The community college concept has encompassed a dream of educational equality for all. Preventing a noble dream from becoming an impossible dream in the environment of the eighties will require the best efforts of policy makers and educators working together to reduce the widening gap between missions and resources. (p. 45)

The lack of a clear understanding regarding the impact of responses to changes in revenues on institutional commitment to mission, planning, and innovation has left a gap in community college development. This research will attempt to fill in that gap through the examination of institutional adaptations to changes in sources of revenue at selected community colleges.

This study analyzed the nature of changes in revenues and the impact of institutional adaptations by community colleges to the changes in revenues. General and individual financial statistics of

selected community colleges were analyzed, as well as data regarding perceptions of the effectiveness of certain institutional strategies. An in-depth investigation of specific institutional adaptations and strategies to changes in revenues at three selected community colleges formed both the focus of the research and the foundation for the development of guidelines for adjusting to revenue changes at community colleges.

The Problem

Statement of the Problem

The problem of this study was to determine which strategies and adaptations have been utilized at selected community colleges in order to minimize the problems attributed to changes imposed by the external environment (i.e., changes in sources of revenues).
Specifically, answers were sought to the following research questions:

1. What environmental changes (i.e., changes in sources of revenue) have occurred at the selected community colleges for the period from 1979-80 through 1983-84?
2. What are the institutional adaptations to the changes at the selected community colleges?
3. Based on a review of relevant literature and the perceptions of community college presidents, what are the institutional strategies for adaptation that are considered effective during periods of changes in sources of revenues at community colleges?
4. What are the implications derived from the data for future efforts by institutions experiencing similar changes?

Delimitations and Limitations

This study was confined to the 18 community colleges that are members of the League for Innovation in the Community College (see Appendix A). Three community colleges were selected from the identified population for in-depth field study based primarily on the greatest degree of change in current operating revenue from 1979 through 1982. Additional criteria for the selection of the three colleges for field study included willingness to participate, size of the college, size of the service area, geographic location, and comprehensiveness of mission. An attempt was made to select the three colleges that exhibited most of the selection criteria. The financial data were confined to the financial data collected by the National Association of College and University Business Officers (NACUBO). The field study data collected included the NACUBO data as well as state and institutional reports from the selected community colleges.

A survey instrument was developed by the researcher based on the literature review. The purpose of the survey was to assess the perceptions of the chief executive officers of the League community colleges regarding the effectiveness of specific strategies a community college might implement when experiencing changes in sources of revenues (see Appendix B). The in-depth institutional field studies were subject to the limitations of case study methodolgy and interviewing using a researcher-developed interview guide (see Appendix C). Limitations included the nature of the type of information desired, the specified concepts involved in the study, the method of interviewing, and the characteristics of the interviewer (Gorden, 1969, p. 87).

Analysis of the comparative financial data was confined to the use of descriptive statistics for the purpose of identifying the community colleges with the greatest changes in revenues. The survey data were analyzed using rank orders, frequency distributions, and measures of central tendency displayed in tabular form and accompanied by a narrative summary. The analysis of the field study data was confined to verification, inspection, and matrix and narrative summaries.

The descriptive, ex post facto nature of the study constituted a strong research approach, even though effects were not manipulated as in true experimental methods (Selgas, 1976). The design limited the extent of cause-and-effect statements regarding institutional strategies and changes in revenues, and also limited the external validity of the study. Despite these inherent limitations, the findings of this investigation have significance to community colleges similar to the selected community colleges in the study in clientele, purpose, structure, and services offered. This congruence enables community colleges of a similar nature to take necessary corrective action based on the guidelines that were developed as an outcome of the study.

Assumptions

The following assumptions are present in this study:

1. The procedures achieved the purposes of the study.

2. The instruments used yielded valid and reliable data.

3. Community colleges made adaptations and developed strategies to counteract the effects of changes in revenues.

4. The review of the literature and institutional perceptions by the chief executive officers at selected community colleges provided a

realistic basis for determining the institutional adaptations to changes in revenues perceived as most effective.

Definitions of Terms

Changes in Revenues

Changes in revenues were operationally defined as an increase or decrease of at least one standard deviation or more from the mean in one or more categories of revenues for the years 1979-80 through 1982-83 (based on the NACUBO reports for the individual institutions who were members of the League for Innovation).

Comprehensive Community College (Public)

A comprehensive community college is an institution supported by public funds and governed by a publicly appointed board which offers courses and programs limited to the first two years of postsecondary education. Medsker and Tillery (1971) defined the comprehensive community college as

> encompassing the six main functions of preparation for advanced study, career education, guidance, developmental education, general education, and community service. The comprehensive community college is expected to provide a "program for all" with the fundamental purpose of equalizing education opportunity. (p. 53)

Dynamic Equilibrium

Dynamic equilibrium is defined as a condition in which all counteracting influences are cancelled, resulting in a balanced, stable system.

Effectiveness

Effectiveness is an inherently subjective perception, generally relative to the goals of an institution, regarding how well an institution maintains its missions and achieves its goals. The major criteria

for effectiveness for the purposes of this study are based on a combination of perceptual data, objective data, and normative definitions from the literature.

Feedback

Feedback is "the input from the environment to the system telling it how it is doing as a result of its output to the environment" (Lonsdale, 1964, p. 175).

Full-Time Equivalent (FTE) Enrollment

FTE enrollment is the number of students enrolled at a community college consisting of full-time equivalent of all credit hours taken by full-time, part-time, and non-credit students (NACUBO, 1984, p. 13).

Guidelines

Guidelines are considerations or steps to be followed when developing institutional responses to changes in revenues.

Institutional Adaptations and Strategies

Institutional adaptations and strategies are operationally defined as the responses to changing revenues identified in the major studies found in the review of relevant literature. Probable strategies to be included are reexamination of institutional mission and goals, increased productivity, identification of new sources of revenues, and changes in faculty and staff compositions (Alfred, 1978; Deutsch, 1983; Wattenbarger, 1978; Whetten, 1981).

League for Innovation in the Community College

The League for Innovation in the Community College is an institutional membership organization comprised of 18 community colleges in the United States. Membership is by invitation only. Represented in the League membership are multi-campus districts, single-campus districts,

urban districts, and rural districts of varying sizes. The member community colleges are noted for innovation among community colleges in the United States.

Mission

The mission of a higher educational institution is, according to Caruther and Lott (1981), a statement or report of "what the institution has been (its heritage), what it shall become (its destiny), and what it does not believe itself to be" (p. 25). The mission of an institution is usually a broad statement of the fundamental purpose, philosophy, clientele served, and services of the college or university.

Revenues

Revenues are operationally defined as the total current fund balances of an institution, excluding auxiliaries. Current fund revenues include tuition and fees; appropriations (federal, state, and local); gifts, grants, and contracts (federal, state, local, and private); and other sources (NACUBO, 1981). Further, definition of current fund revenues used by the National Center for Educational Statistics (1982) is as follows:

> Current fund revenues include all unrestricted gifts and other unrestricted revenues earned during the fiscal year and restricted current funds to the extent that such funds were expended for current operating purposes. (Form 2300-4, p. 5)

State and Local Appropriations

State and local appropriations are government collected revenues received from or made available to the institution through acts of a legislative body, except grants or contracts, for the purposes of meeting current operating expenses. Sources of state and local appropriations are state and local revenues.

System

A system is "a set of elements standing in interaction" (von Bertalanffy, 1956, p. 3). Operationally, the community college is the system for the purpose of this study.

Justification for the Study

Justification for the study stems from the need to provide a link between the theory regarding community colleges as open systems capable of adapting to changes in the environment and the effectiveness of specific strategies employed by selected community colleges to changes in sources of revenues. A study of how selected community colleges maintain dynamic equilibrium by adapting to feedback from the environment will no doubt prove useful to many other community colleges that are attempting to uphold the community college mission while responding to changes in revenues.

Several community college authorities have suggested that the qualities of the community college that denote its individuality (i.e., flexibility, innovativeness, and responsiveness to the community), further justify a study of how community colleges have responded when faced with changes in revenues (Carnegie Foundation, 1975; Gleazer, 1980; Vaughn, 1983). The Carnegie Foundation for the Advancement of Teaching (1975) viewed the strength of the mission of the community college as a valuable asset in developing the flexibility and overall strategy to respond effectively to revenue changes. The recommendation presented by the Foundation in More Than Survival (1975) stated that

> community colleges should do more of what they are now doing. They draw their strength, direction, and identify from the local community they serve. Their

> strength is their role as a community resource and this can be enlarged by developing new programs to meet urgent needs, such as training programs for police, small business, etc. (p. 136)

A final justification for this study is that the study fits into current research efforts and needs identified by NACUBO and the National Center for Higher Education Management Systems and has received support from member institutions in the League for Innovation. In addition, institutions currently experiencing revenue changes (such as Coast Community College in California and Lane Community College in Orgeon) have indicated eagerness to learn and benefit from the experiences of other colleges that have adapted to changing revenue conditions (such as Delta College in Michigan and Miami-Dade Community College in Florida). A valuable outcome of this study was the development of guidelines designed to provide practitioners in the field with a framework adapting to changes in revenues.

Procedures

Design of the Study

The study, descriptive and *ex post facto* in nature, incorporated the research approach of triangulation (Denzin, 1978; Patton, 1980). Triangulation, or the combination of methodologies in the study of the same phenomena or programs, incorporates the use of both quantitative and qualitative data and methodologies. Denzin (1978) explained the logic of triangulation as being based on the premise that

> no single method ever adequately solves the problem of rival causal factors. . . . Because each method reveals different aspects of empirical reality, multiple methods of observations must be employed. This is termed triangulation. I now offer a final methodological rule the principle that multiple methods should be used in every investigation. (p. 28)

The study determined the nature and impact of changes in revenues at selected community colleges and examined the institutional adaptations and strategies employed by the institutions in order to minimize the problems attributed to the changes. The investigation included the following major procedures:

1. A review of relevant literature, including the identification of institutional adaptations and strategies for dealing with changes in revenues perceived as most effective.
2. The development of a survey instrument used to assess perceptions regarding the effectiveness of specific institutional adaptations to changes in revenues at the selected community colleges, including pilot tests and subsequent revisions.
3. The administration of the survey to the chief executive officers at all 18 of the community colleges in the League for Innovation.
4. The securing of permission for the release of the individual institutional NACUBO financial data from the participating League colleges.
5. The collection and analysis of the comparative and individual financial data from NACUBO. The analysis of the financial data provided part of the information needed to identify the three community colleges for further in-depth study.
6. The selection of three community colleges for the in-depth field studies. Criteria for the selection of the colleges included the degree of changes in sources of revenues, the size of the college, the size of the service area, the comprehensiveness of mission, the geographic location, and the willingness of the college to participate.
7. The requests to the three community colleges selected for

participation in the study and subsequent requests for specific institutional documents from the college, such as the college catalog, self-study reports, institutional publications, and budget reports.

8. The development of an interview instrument for the field studies, two pilot field tests at two community colleges, and subsequent revisions of the interview instrument.

9. The in-depth field studies conducted during on-site visitations to the three selected community colleges.

10. The analysis and presentation of the data, including the development of specific guidelines for institutional adaptations and strategies for adjusting to changes in revenues at community colleges.

The effect of triangulation, i.e. the use of data from several sources (Patton, 1980), strengthened the external validity of the study as well as the guidelines and implications presented for further research. The findings of the investigation therefore have significance to many community colleges similar in clientele, purpose, and structure to the community colleges involved in this study.

Organization of the Remainder of the Study

The study consists of five chapters. Chapter II provides a review of related literature. Chapter III presents the methodology and specific procedures used for the study. Chapter IV presents the results of the survey and field studies. Chapter V provides the summary and conclusions of the study and presents the guidelines developed from the analysis of the data.

CHAPTER II
REVIEW OF RELATED LITERATURE

The review of related literature for this study is divided into two sections. The first section examines the theoretical literature on open systems in relationship to the problem of the study, that is, the examination of strategies and adaptations utilized at selected community colleges in order to minimize the problems attributed to changes in sources of revenues. The second section examines the nature of and responses to changes in sources of revenues at community colleges; the second section is confined to relevant literature and studies published from 1974 through 1984. The summary of this chapter includes the theoretical propositions developed from the dominant themes found in the literature review.

Open Systems Theory

Overview

One of the most prominent developments that has emerged in organizational theory since the early 1960s is the growing view of organizations as open systems (Hall, 1977; Kast & Rosenzweig, 1974; Katz & Kahn, 1966). Open systems theory grew out of the application of general systems theory to organizational theory. General systems theory, the larger view of "the dynamic interrelationship of several parts of a larger whole as it interacts with its environment" (Beer, 1980, p. 76), originated from the seminal works of Boulding (1956), Miller (1978), and von Bertalanffy (1956). Miller (1978) defined general systems theory as

> a set of related definitions, assumptions, and propositions which deal with reality as an integrated hierarchy of organizations of matter and energy. (p. 9)

In general, several conceptualizations and classifications of systems have been used in literature regarding the systems theory of organizations. They are as follows:

1. Organizations as rational systems (Barnard, 1938; Etzioni, 1964; Simon, 1950; Taylor, 1911; Taylor, 1947; Weber, 1964); and

2. Organizations as open systems (Boulding, 1956; von Bertalanaffy, 1956; Katz & Kahn, 1966; Miller, 1978; Kast & Rosenzweig, 1979).

The view of an organization as a rational system tends to conceptualize the organization as a "closed system, separate from its environment and comprised of stable and easily identified participants" (Scott, 1981, p. 22). In contrast, the view of an organization by the open systems theorists is that of

> a coalition of shifting interest groups that develops goals by negotiation; the structure of the coalition, its activities and its outcomes are strongly influenced by environmental factors. (Scott, 1981, p. 23)

Kimbrough and Nunnery (1983), in their discussion of systems theory, contended that a system may be viewed as either open or closed. They define a closed system as "one with rigid, impermeable boundaries; as such, there are neither inputs nor outputs--no exchange of matter and energy with the environment" (p. 298). In contrast, they stated that "open systems have relatively permeable boundaries. As such, they receive inputs and receive outputs; energy and matter exchange occurs between the system and the environment" (p. 298). Most of the current proponents of the open systems view of organizations stress the

importance of the exchange and interdependence of the system with its environment (Katz, Kahn & Adams, 1980; Kast & Rosenzweig, 1979; Scott, 1981).

Summarizing the trend in the literature toward open systems theory, Hoy (1982) stated that "open systems models of organizations began to supplant closed-systems ones in the 1960s, and, by the late 1970s, the transition was virtually complete" (p. 7). This transition appearingly produced a consensus that modern organizations, including educational ones, are open systems; any analysis of modern-day organizations without reference to the dynamics of the environment is simply insufficient (Bidwell, 1979).

Organizations as Open Systems

The view of organizations as open systems that interact constantly with a dynamic, changing environment is most timely and applicable to the study of changes in sources of revenues at community colleges. For instance, Martorana and Kuhns (1975) depicted the community college as a system that was capable of adaptation based on feedback from the external environment in order to maintain survival. Therefore, community colleges, when confronted with a change in sources of revenues, may respond in manner not only to survive but also to carry out institutional goals and maintain mission.

Prior to a thorough understanding of the relationship between an open system and its environment, the characteristics of open systems known as feedback, dynamic equilibrium, and equifinality need to be considered. For example, the concepts of feedback and dynamic equilibrium are critical to understanding how an organization uses information and changes from the environment to continually adjust and modify its

subsequent functioning in order to perform effectively and ultimately survive. Applied to a community college, feedback could be in the form of decreased state appropriations which in turn may cause the institution to look to other sources of revenue, such as increasing tuition.

Feedback, which can be either positive or negative, is information from the internal or external environment regarding the outputs of the organization. The feedback to the organization is a critical means of organizational control, particularly if it is of a negative nature. Negative feedback "indicates that the system is deviating from a prescribed course and should readjust to a new steady state" (Kast & Rosenzweig, 1974, p. 7). Whetten (1981) claimed that feedback is information which enables the system to adjust in order to "maintain a state of compatibility between internal operations and environmental conditions, including social norms, regulations, and client needs" (p. 81).

Dynamic equilibrium, the preferred modus operendi for an organization, is a dynamic state of continuous adaptation to changes in the environment and internal forces in order to preserve the character of the system (Kast & Rosenzweig, 1974; Katz & Kahn, 1978). Dynamic equilibrium involves a continuous flow of material, energy, and information which the system utilized to stay on target and continue to proceed toward its goals.

The concept of equifinality is that final results may be achieved with different inputs and similar inputs may result in different conditions. Stated more parsimoniously, the concept of equifinality suggests that there is no one <u>best</u> way to reach a goal, but rather that varying inputs, paths, condition, and activities in an organization can achieve given goals and results. The concept of equifinality opens up

a wide range of alternatives for meeting organizational goals (Kimbrough & Nunnery, 1983). Kast and Rosenzweig (1974) suggested the following operational application of equifinality to organizations:

> The equifinality of social systems has major importance for the management of complex organizations. The closed-system cause-and-effect relationship from the physical sciences would suggest that there is "one best way" to achieve a given objective. The concept of equifinality suggests that the manager can utilize a varying bundle of inputs into the organization, can transform these in a variety of ways, and can achieve satisfactory output. Extending this view further suggests that the management function is not necessarily one of seeking a rigid optimal solution but rather one of having available a variety of satisfactory alternatives. (p. 9)

Another tenet of systems theory is that to some degree all organizations depend on the types of relations they develop with the larger environment for their own survival. No organization is self-sufficient; "each organization exists in a specific physical, technological, cultural, and social environment to which it must adapt" (Scott, 1981, p. 17). Wattenbarger, Haynes, and Smith (1982) stated that "according to systems theory, the external organizations provide the medium in which an organizational system operates" (p. 4); they described the external environment as consisting of such things as the available clientele and working supplies, staff, level of knowledge, other educational institutions, and the level of support of public opinion for the organization.

Katz, Kahn and Adams (1980) viewed changes in the organization as the result of environmental modifications, conditions, and forces. They claimed that without environmental changes that interfere with the maintenance and production inputs an organization will not change. The environment, or world outside the organization, is the driving force

behind organizational changes. In an operational sense, a greater degree of complexity, instability, and future potential for change in the environment will lead to an increase in the differentiation, innovation, and ability of an organization to respond quickly to environmental changes (Wattenbarger et al., 1982).

A 1982 study of changes affecting community colleges illustrated how environmental forces can become a threat to the community college mission and to the open door philosophy (Henderson, 1982). The environmental feedback to the community college identified by Henderson and others included legislative actions such as reduced funding, changes in governance/structure, increased demands for accountability and quality, and limitations on enrollments (Alfred, 1979; Burnsted, 1980; Martorana & Nespoli, 1978; Marty, 1978). The studies concluded that the environment in which the community college functions must be known in order to render responses which facilitate survival and maintain institutional mission.

Organizational Effectiveness in Higher Education

Cameron (1978) was among the first researchers to address the actual measurement and prediction of organizational effectiveness in higher education. In his 1978 doctoral study he demonstrated a need for considering specific domains and expanding predictive models of organizational effectiveness. Also, he proposed a more inclusive definition of organizational effectiveness than relying solely on organizational goal accomplishment. In subsequent research, Cameron (1981) identified four domains of organizational effectiveness (i.e., academic, morale, external adaptation, and extracurricula domains) as well as identified characteristics of institutions which were predictive

of organizational effectiveness. Implications of the research findings include the possibility that different models of effectiveness may be relevant to different types of organizations; and, when viewed as a multi-domain construct, levels of organizational effectiveness in different domains may vary significantly within the same organization (pp. 42-45).

Several models of organizational effectiveness have emerged from related studies. The majority of the studies concluded that organizational effectiveness is inherently subjective and the best criteria for its definition and assessment are relative to the situation and contingent upon several factors (Cameron & Whetten, 1983; Drucker, 1980; Zammuto, 1982). Zammutto succinctly described the open systems approach to organizational effectiveness, that is, emphasizing flexibility and growth in his summary of the changing nature of organizational effectiveness. He stated:

> Organizational effectiveness is not a known or constant quality. . . . Performance that is effective today is equally likely to be ineffective tomorrow as preferences and contraints change. The goal of the effective organization is, continually, to become effective rather than be effective. The journey is, in this case, more important than the destination. (p. 161)

Although there appears to be a void in the literature in relation to organizational effectiveness in higher education, two additional studies seem to have relevance to education in general. Gilmartin (1984), in his longitudinal attempt to compute indicators of institutional viability, developed statistics on nearly all colleges and universities in the United States. He used objective measures to identify colleges and universities in distress of some sort, such as closure, extreme enrollment decline and extreme decline in current fund revenues and balances. Although the kinds of colleges which frequently

tend to be less viable were identified, his study did not include any examination of how colleges adapted to distress and what actions were effective at the colleges that improved in viability.

In contrast to Gilmartin's quantitative study (1984), Chaffee (1982) incorporated a case study approach to assess recovery from financial and enrollment decline in small, private, liberal arts institutions. Chaffee identified several characteristics that were crucial to the institution's ability to weather the decline and recover successfully. The characteristics included the leadership ability of the chief executive officer, a clear and strong sense of organizational identity and mission, and close attention to constituences of the college. In addition, Chaffee attributed the success of the institution to raise revenues from outside sources to the degree that the institution possessed the characteristics cited.

In summary, the review of the literature on open systems theory demonstrated a lack of research on how community colleges have adapted to environmental changes. Commenting on higher education in general, Whetten (1981) proposed that educational organizations can enhance their adaptive potential by utilizing the pressure of environmental change (i.e., scarcity), to spur innovation and improve organizational effectiveness. The next section of this chapter will review the specific studies regarding changes in sources of revenue and subsequent responses by institutions of higher education.

Changes in Sources of Revenue

Higher Education Overview

During the 1960s, unprecedented growth in both enrollments and sources of revenue in organizations of higher education generated

considerable preoccupation with growth. The experience of tremendous growth encouraged the development of a growth psychology, growth-dependent structures, and growth-contingent funding, particularly in community colleges. Unfortunately, according to Dresch (1977), this preoccupation with growth "relieved the education establishment of the need to devise adaptive mechanisms that did not rely on growth for their effectiveness" (p. 29).

According to the Carnegie Foundation studies (1975), higher education has gone through various phases of development and will be experiencing a period of slow or no growth from 1985 through the year 2000. The growth phases of higher education development as presented in the Carnegie Foundation report More Than Survival (1975) are

1636-1870	Slow growth
1870-1880	Fast acceleration of growth
1880-1960	Rapid growth
1960-1970	Fast acceleration of growth
1970-1985	Fast deceleration of growth
1985-2000	Slow growth or not growth (p. 87)

These forecasts of decline in the growth rate of institutions of higher education have come to fruition in the late 1970s and early 1980s, particularly in four-year college and university enrollments. Since universities and four-year colleges enroll the majority of the traditional college-age population group (i.e., 18 through 24 year olds), the decline in this population group has been reflected in decreasing numbers at these institutions. Until 1983, community colleges did not experience the same degree of enrollment decline, with the exception of a slight enrollment drop in 1978.

In addition to the enrollment decline, community colleges faced increased competition for students from four-year institutions and

rising costs of educating a diversity of students. In spite of these trends, Breneman (1983) suggested that public community colleges are probably most favorable positioned in relation to other sectors of higher education due to their "relatively low prices, their ability to serve the adult part-time population, and their flexibility of shifting program offerings rapidly in response to changing demands" (p. 18).

Although considerable attention has focused on fluctuations in higher education enrollments, many higher education critics see the most serious problem as inflation, not enrollment (Alfred, 1982; Astin, 1977; Frances, 1983; Johnson, 1983; Mortimer & Tierney, 1979). In a review of the past 10 years, Frances (1983) contended that although inflation is down markedly in the economy as a whole, in higher education it is hardly down at all (p. 4). Frances cited two major problems resulting from continued inflation in higher education: one is the comparatively lower purchasing power of faculty than of workers in general due to salary increases that were lower than inflation rates; the other is that increased productivity in higher education has resulted in educating significantly more students with significantly fewer real dollars for instruction. Further complicating the problem of inflation in higher education, according to Frances, is the following trend:

> Institutions have faced serious shortfalls in state and local funding, in most cases because enrollment grew faster than the real value of funding per student. But the problem was inflation, not unwillingness of legislatures to finance higher education. (p. 5)

Purga's 1979 study of the effects of enrollment decline in Florida's community colleges supported Frances' contentions regarding inflation. Purga found that during times of inflation, institutions that had not

experienced actual decline may have experienced an effective resource decline due to the inherent fiscal constraints of inflation.

Inflation has had a direct bearing on sources of revenue to higher education, resulting in the inability of tax revenues to keep pace with state and local spending (Alfred, 1982). Specifically, inflation has had an impact on the three principal sources of community college revenue, that is, property tax, state appropriations, and tuition and fees (Lombardi, 1979). Lombardi, in his 1979 study of community college finance, indicated that the potential for increasing revenue from traditional sources is bleak, based on numerous failures to increase local tax levies. The 1978 passage of Proposition 13, a property tax limitation measure in California, resulted in a dramatic shift in the primary sources of revenue from the local level to the state level (Good, 1983). In addition to the shift in sources of revenue prompted by Proposition 13, the 1984 California legislature approved the authorization of tuition in the traditionally tuition-free community colleges in exchange for increased community college support.

In many states, inflation combined with the political and economic environment has dictated educational policy decisions (Astin, 1977; Burnsted, 1980; Henderson, 1982). Financial strains on community colleges have been created by the increased costs involved in expanding greater access to a diversity of students with varying levels of ability. At the same, community colleges have become victims of economic policy trends to cut operating costs and streamline higher education (Astin, 1977).

Henderson (1982), in his study of Florida's community colleges, found that the economy has influenced the state legislature to make

decisions and set spending priorities which affected the open door philosophy of the community colleges. (p. 104). The traditional open door philosophy embraced by community colleges since the 1960s has begun to close at some institutions (Watkins, 1982). This is primarily due to fiscal constraints imposed by legislative cuts in funding, programs and student aid (Knoell, 1983; Richardson & Leslie, 1980; Vaughn, 1983). Vaughn (1983), concurring with the major critics, stated that "perhaps more than any other factor, funding influences the shape of mission" (p. 14).

In addition, Richardson (1982) cited a shift in the priorities of public policy from access toward achievement. He maintained that community colleges are "victims of their own success," stating that the "explosion of clienteles, services, enrollments, and delivery systems has not been matched by corresponding commitments of additional dollars from state, local, or federal sources" (pp. 147-8). Cohen (1983), elaborating on the effects of the cutbacks in funding and resources, noted:

> More recently the era of declining resources has forced a redefinition of institutional purpose. The question now is not how to add but how to drop programs, how to eliminate curriculums and services. The question is no longer a new program versus no program; it is which program to keep, which one to drop. (p. 183)

Clearly, the environment of the 1980s for community colleges is a dramatically different scenario than that of the growth decade of the 1960s, when resources seemed unlimited and community colleges were opening at the rate of one per week. Talk of retrenchment and how to do more with less has replaced grandeur talk of endless growth. In 1983 B. Lamar Johnson, the first executive director for the League for Innovation in the Community College, stated that "community colleges--

and indeed all of higher education--are faced with a financial crisis" (p. 35). Paul Elsner (1981), Chancellor of Arizona's Maricopa Community Colleges, claimed that a "tax conscious public and budget conscious legislators have brought us into a time of retrenchment" (p. 5). Many leading critics appear to agree with Deustch (1983), who summarized that "retrenchment is the single most important issue facing higher education through the year 2000" (p. 41)

Richardson (1982) cited the changed external environment in which community colleges function as one characterized by a period of scarcity. He stated the following:

> Accustomed to growth, we have attempted to forestall the inevitable stabilization or even decline of enrollments by seeking new clientele. Many of the new clientele have problems which make them more expensive to serve. Public policy makers have not been as enthusiastic about our pursuit of new clientele as we have been. Consistently they have refused to provide us with the additional funds that we have required. (p. 150).

Studies consistent with the focus of revenue changes at community colleges have mushroomed since the passage of the tax-limiting "Proposition 13" in California in 1978. Proposition 13 limited property taxes, the primary source of community college funding in California, by almost 60 percent (Jackson, 1981, pp. 152-3; Lombardi, 1979). Lombardi (1979) reported that community colleges lost 465 million dollars in property tax receipts due to the passage of Proposition 13. Despite the buffer provided by some state surpluses, the "Post-Proposition 13" budget for the California community colleges was 86 percent of the "Pre-Proposition 13" budget (p. 8). In a related study on tax limitation issues by Lombardi (1979), the impact of Proposition 13 was reflected by the failure of 20 local tax levy increases in Illinois.

In general, it appeared that by the end of the 1970s the potential for increasing revenues from the traditional sources was gloomy for community colleges.

McGuire (1978), in his study of public community college funding in the United States, surveyed state community college directors to assess state community college financial conditions. Of the 39 states responding, state directors in 21 states reported that community college funding had reached a "stabilized" condition with no appreciable increase or decrease in financial resources in three years. Of the remaining 18 states, seven reported a decrease in funding and eleven reported an increase. McGuire pointed out that even stable funding constitutes a real cut in an inflationary period, especially if enrollments are increasing as they have been at community colleges.

Further validation of changes in revenue sources is found in a 1982 doctoral study (Sedate, 1982). Sedate examined the current operating revenue and expenditure patterns of 14 selected community colleges in Texas. As a group, the Texas community colleges obtained funds to match enrollment changes and inflation, yet in doing so relied more upon state funds and less from local sources, especially student tuition and fees. Several studies conducted by the Institute of Higher Education at the University of Florida (Wattenbarger & Bibby, 1981; Wattenbarger & Heck, 1983; Wattenbarger & Starnes, 1976) have also validated the changes in sources of revenues at community colleges on a state by state basis as well as incorporating a longitudinal national comparison. Richardson and Leslie provided a summary of the scenario of the 1970s in their 1980 monograph on community college funding:

> From 1972 to the present, there has been gradual erosion of the financial position of community colleges,

> with no concomitant adjustment of institutional aspiration. The result has been a period of educational inflation during which programs and services have been provided to greater numbers of students while the constant dollars available have often remained essentially stable or, in some instances, declined. Community colleges have been among the hardest hit in terms of the adequacy of state appropriations. Those funded in part by local property taxes have encountered taxpayer resistance as the decline in the share of the costs paid by states had to be offset by increased local dollars. (pp. 43-44)

The latest and perhaps most extensive study regarding trends in what is happening to sources of revenue at community colleges was conducted by NACUBO over the period 1976 through 1984. NACUBO surveyed the business officers in 120 two-year public community colleges in 21 states chosen at random, representative of the total population of community colleges. The following revenue trends were identified (Jenkins, 1984):

1. Actual dollars appropriated by state and local governments have continued to increase substantially.
2. The other source of increase in revenue was in tuition and fees.
3. There was a small decrease in federal grants and contracts.
4. Two other sources which showed increases were endowment income and private gifts, grants, and contracts.
5. The remaining total of other revenues did not reflect substantial change. (p. 25)

Although the NACUBO findings identified an actual dollar increase, the actual percentage of state funds had decreased and was made up by the substantial increases in tuition and fees and increased local government funds. In summary, the trends apparent in revenue source changes at community colleges from the studies reviewed include the following:

1. Tuition is becoming increasingly important in financing community colleges, comprising more than 10 percent of most operating budgets Jenkins, 1984; Richardson & Leslie, 1980; Wattenbarger & Bibby, 1981; Wattenbarger & Stepp, 1978).

2. Local funds contributing to community college revenues are decreasing in general as a percent of the total operating budgets of community colleges (Lombardi, 1979; Richardson & Leslie, 1980; Wattenbarger & Heck, 1983).

3. State funds, while continuing to increase in dollar amounts, have decreased as a percent of the total operating budget (Jenkins, 1984).

4. Some community colleges have been successful in expanding their revenue base through substantial increases in increased sources of revenue generated through efforts in development and fundraising activities (Jenkins, 1984; Watkins, 1984b).

Reactions to Changes in Revenues

Four-Year Colleges and Universities

Four year colleges and universities were the first to react to revenue decline perpetuated by demographic pressures and expenditure pressures that grew faster than institutional revenues (Breneman, 1983; Carnegie Foundation, 1975; Mortimer & Tierney, 1979). In many cases of institutional decline in higher education, management was ill-prepared to cope with retrenchment. Chaffee (1982), in her study of strategies used in small private liberal arts colleges, found that in many cases prior growth of enrollments and institutional revenues were the chief cause of decline because the growth was planned, financed and managed poorly, thus undermining productivity. Whetten (1981) supported Chaffee's finding, contending that due to previous periods of rapid

growth, institutions have not developed the skills nor the mentality necessary to deal with scarcity. Whetten further proposed that institutions tend to respond conservatively to decline and do more of what they are already doing. He attributed this tendency to the conservative structure of higher education institutions which creates a bias against changes and innovation, thus perpetuating the status quo (pp. 83-89).

Specifically, studies of reactions to declines in revenue sources in higher education have concentrated on ways to reduce expenditures and reallocate resources (Carnegie Foundation, 1975; Heydinger, 1983; Hyatt, Shulman, & Santiago, 1984; Mayhew, 1980; Mortimer & Tierney, 1979). The Center for the Study of Higher Education at The Pennsylvania State University (Mortimer & Tierney, 1979) documented the experiences of three institutions experiencing reductions in revenues: University of Michigan, University of Pennsylvania and the Pennsylvania State College System. The two primary strategies employed were changing the student-faculty ratios and internal reallocations of resources based on program review. The internal review of programs resulted in faculty reductions and dismissals as a result of specific program discontinuences.

Pfleiger (1980), in his study of the effects of revenue on the administrative structures in small independent colleges, found that attempts at increasing revenues were implemented rather than cutbacks in administrative staff. The presidents surveyed in the study indicated that the most prevalent techniques for increasing revenues were increasing tuition and fees and developing programs to attract nontraditional, part-time students. In a similar study focusing primarily on administrative staff reductions (Abrahamowitz & Rosenfeld, 1978), the most

frequently cited methods for retrenchment were early retirement, nonreplacement of faculty and staff, and termination of part-time staff.

Chaffee's (1982) study of the effects and responses to enrollment and revenue decline in small independent four-year schools incorporated a case study approach. The results of the study of fourteen schools formed the basis of Chaffee's generalizations regarding the management of decline. In the institutions that had arrested the decline in revenue and achieved financial stability and improvement, the following characteristics were evident, as summarized by Lawrence (1984):

> 1. The presidents had an obvious ability to explain the merits of the institution to the public.
> 2. The presidents were backed by assertive admissions officers who understood the missions of the college.
> 3. Marginal rather than major changes were made in programs.
> 4. Capital fund campaigns were started and alumni development efforts were organized.
> 5. Close attention was paid to market factors and constituencies who supplied critical resources.
> 6. Environmental opportunities were seized (i.e., via the use of trustees, professionalization of the management team, public support, and development efforts).
> 7. A strong and clear sense of organizational identity was established and maintained.
> 8. Major decisions were made on the basis of the institution's identity and the subsequent budgeting, programmatic and enrollment policies reflected institutional mission and goals. (paraphrased, p. 23)

Another significant discovery in Chaffee's study was that in every case of successful recovery from decline, the schools had replaced the old administrators (i.e., those who had managed the college during growth and expansion) with a new management team. Cameron and Whetten (1983) described the reason for this phenomenon documented by Chaffee:

> A new state of organizational development made old ways of administering ineffective. Administrative style must change, therefore, or else new administrators

> who can manage the demands of a new state of development must be installed when major institutional transitions occur. (p. 295)

In two related studies by Cameron (1982; 1983), the orientations of administrators and their responses to enrollment changes in universities were examined. Both studies revealed a significant difference in the strategic emphasis of the administrators in universities declining in enrollments from administrators with growing or stable enrollments. The administrators experiencing decline tended to be conservative and internally focused in their orientation, emphasizing finances, budgeting, and fundraising. The administrators with growing enrollments were characterized by an external orientation, advocating innovative proactive responses and emphasizing public relations, service, and interaction with external constituencies. Cameron's studies suppported the findings of Chaffee and Whetten, noting that administrators in declining organizations tend to respond with conservatism, and may actually be perpetuating the decline by their anachronistic style.

The most recent study of strategies to changes in resources at public colleges and universities examined four universities and one community college district in three states hit hard by state revenue shortfalls (Hyatt et al., 1984). The study incorporated a case study approach to determine the effects of revenue reductions and the specific institutional responses to the fiscal stress. Hyatt reported that what actually had occurred at the institutions was reallocation, or, a long-term approach defined as "a process which distributes resources according to a plan" (p. 15). The specific factors involved in developing what was considered to be an effective reallocation process at the institutions were as follows:

1. Faculty and constituent involvement in the reallocation process;

2. Assessment of institutional role and mission;

3. The quality of academic and support programs; and,

4. Assessment of the long-term versus short-term costs and benefits associated with reallocation.

It should be noted that all of the institutions included in the Hyatt study viewed retrenchment and reallocation as a generally positive experience. Some institutions found that the process "improved faculty and staff understanding of the institution's role and mission and has helped in setting institutional priorities" (p. 11). In concluding, Hyatt et al. noted that the process of reallocation had prompted an in-depth discussion of the long- and short-term implications associated with the process (pp. 11-12). Also, in order to meet the challenges facing institutions of higher education in the years ahead, Hyatt et al. concluded that "reallocation must be made an integral part of institutional management" (p. 12).

Community Colleges

Community colleges, despite relatively stable enrollments until 1983 (Watkins, 1984a), are facing similar stabilized and changed revenue conditions as found in four-year institutions. Increased competition for state dollars (Wattenbarger & Starnes, 1976) as well as for students (Breneman, 1983) has placed community colleges in an uncomfortable position. In many instances, community colleges have responded to worsened revenue conditions amidst demands for increased services and growing demands for accountability (Alfred, 1978; Henderson, 1982; Richardson, 1982). Henderson (1978) cited that the most urgently needed high-cost and innovative programs are generally the first to be

cut at community colleges in times of declining resources (p. 30). Further, Henderson described the strategies employed to adjust to declining revenues at community colleges as "a retreat to traditionalism" (p. 29) precisely when there are renewed demands for new approaches to serve new clientele.

Studies on strategies used by community colleges to adapt to changes in revenue began to appear shortly after the passage of Proposition 13 in California and concurrent tax limitation measures in other states (Jackson, 1981; Lombardi, 1979; McGuire, 1978). In McGuire's 1978 study of funding conditions in community colleges as reported by the state directors in 39 states, the most frequently mentioned responses to decreased and stabilized funding were reported as increasing part-time faculty, reducing non-instruction expenses, and increasing student/teacher ratios (p. 19). Wattenbarger (1978) expanded on responses to reduced resources at community colleges, maintaining that reexamination of the institutional mission was essential, as well as an institutional planning process. Proposing an action-oriented approach to reduced resources, Wattenbarger suggested several responses for administrators to implement, including

1. Reducing the teaching and administrative staff;
2. Increasing faculty productivity by raising faculty/student ratios;
3. Reducing full-time faculty;
4. Curtailing/consolidating programs;
5. Identifying new sources of funds; and
6. Increasing efficiency and effectiveness through the reorganization of the management structure.

Alfred (1978) reaffirmed Wattenbarger's approach and also recommended the organization of an aggressive public relations program, increasing lobbying efforts, using outcome measures to build an effective resource base, and implementation of a flexible short- and long-term planning process carried out by the central administration (p. ix, 87).

The responses to revenue decline by 70 community college districts in California in 1978 were studied by Lombardi (1979). The most frequent strategies implemented by the community colleges identified by Lombardi were as follows:

1. Determined program priorities among current programs and made subsequent program cuts. (The highest priority programs were occupational and transfer; the lowest priority programs were community service and non-credit adult education.)
2. Suspended cost-of-living increases.
3. Instituted hiring freezes and cut current fringe benefits.
4. Dropped overload assignments of tenured faculty.
5. Cut the length of administrative contracts.
6. Eliminated and combined courses and programs based on a "zero-based type of scrutiny" to determine need.
7. Imposed fees such as health and facilities fees.
8. Stopped capital outlay projects.

Breneman and Nelson (1981), in their analysis of community college financing in the 1980s, suggested three possible approaches for community colleges. The alternatives they suggested are as follows:

1. Maintain the commitment to the comprehensive mission, giving academic, occupational, and community service components equal priority.

2. Drop the community service component and emphasize the traditional collegiate function.

3. Emphasize the community service orientation and become community based learning centers.

Three recent doctoral studies (Charnley & Hungar, 1982; Mehnert, 1982; Yopp, 1982) provided research on revenue changes in community colleges. Yopp (1982), in a national survey of 827 community and junior college presidents, found that the most troublesome issue identified by the presidents centered around finances. The presidents reported that they expected to generate funds or reduce expenditures at their institutions by increasing tuition, productivity, funding from the state, and through the increased use of parttime instructors and energy conservation practices.

In Mehnert's (1982) study of strategies for community college retrenchment a historical analysis was used to create a weighted order of survival strategies. In descendent order, the strategies include balancing the budget by research, resource analysis, and cost effectiveness; planning/self-study; maintaining a unique mission; improving spirit and morale; lowering personnel costs; improving public attitudes; offering pertinant, quality programs; and collaborating with other institutions.

In a related doctoral study, Charnley and Hungar (1982) examined the planning process for resource allocation at Seattle Central Community College. They developed a planning model to meet the particular context and environmental conditions for the allocation of declining resources at the college. In doing so, they identified the key factors to effective planning and resource allocation as committed, dynamic

executive-leadership and systematic involvement or organizational members in the planning process.

In addition to the previously cited studies, the literature search revealed agreement regarding the criteria for effective strategies to changes in revenues in higher education. Levine (1979), discussing cutback management in the arena of public management, stressed the value of involving the affected units or parties in the cutback process and the disservice of implementing across-the-board cuts:

> Sharing the pain of cuts by allocating them across-the-board to all units may minimize pain, help to maintain morale, and build a good team spirit in the organization, but it is not responsible management. Not every unit in an organization or every agency in a government contributes equally to the goals, purposes, and basic functions of that organization or government. (p. 102)

An additional problem cited by Levine (1979) was that in general "inefficient organizations are less penalized when cuts are taken across-the-board than are efficient organizations" (pp. 181-2). According to Levine, this was primarily due to the lack of rewards for conserving resources in public management.

An example of staff involvement in the priority-setting process and avoidance of any across-the-board cuts is the institution-wide planning process implemented by the University of Minnesota (Heydinger, 1983). The University, caught in a 12% cut in their operational budget in the 1981-83 biennium, responded by using their existing institution-wide planning process to arrive at a set of specific program priorities for the system. The process leading up to the final budget decisions involved faculty and staff, avoided any across-the-board cuts, and ultimately integrated the academic governance procedures of each college throughout the entire process.

The State University of New York (SUNY), which has over 60 campuses including community colleges, responded in a similar nature when faced with a major state budget reduction in 1976 (Shirley, 1982). One of the four major university centers in the system, SUNY-Albany, responded to the cutback directives within a long-range planning perspective. The institution formed a faculty-dominated taskforce which implemented program review to determine program cuts. The taskforce rejected across-the-board cuts and focused on program areas where they had "over-expanded" in the 1960s. The final outcome was the termination of 18 of the institution's 129 programs. Of the 110 faculty affected by the cuts, 70 faculty were reallocated to high priority program areas and 38 faculty positions were surrendered to the State of New York (p. 24). An obvious benefit of the SUNY-Albany process appeared to be that the short-range budget cuts were perceived to be consistent with the long-range plan for the campus and significant involvement by departments was incorporated into the reallocation process.

Campbell (1982), in his study of 37 campuses responding the financial difficulty, found common responses which concur with the previous studies. He cited deferred maintenance, restricted travel, increased recruitment, upgraded public image, and cutbacks in non-instructional areas as the most common approaches. Campbell characterized the "most successful" institutions surveyed:

> 1. They knew they needed to employ a more effective use of resources.
> 2. They had to promote a long-range perspective in their planning activities.
> 3. They needed to identify priority programs, and cut or trim other.

> 4. They recognized the need to attract and retain capable managers.
> 5. They knew they had to improve their fundraising activities.
> 6. They needed greater trustee involvement and more structured faculty and staff participation. (pp. 15-16)

Overall, the studies regarding how community colleges and other institutions of higher education have adjusted to changes in revenue appear to have several themes in common, including the following:

1. The need to incorporate the existing planning process into the decision-making process regarding the reallocation of resources was stressed (Heydinger, 1983; Shirley, 1982; Wattenbarger, 1978).
2. Retreating to traditional responses such as deferred maintenance and across-the-board cuts was viewed as a short-term solution (Henderson, 1978; Levine, 1979; Lombardi, 1979).
3. The most strategic and innovative measures promoted a long-range approach (Breneman, 1983; Hyatt et al., 1984; Whetten, 1981). These themes contribute to the development of the theoretical propositions regarding adjustments to changes in revenues presented in the summary section of this chapter.

Summary

Development of the Postulates and Propositions

Several recurring themes were present in the studies reviewed, which led to the development of the following postulated and propositions. The postulates are suggested and used as the premises related to reaching conclusions regarding strategies utilized to adjust to changes in sources of revenues at community colleges. The propositions, which are suggested to support the postulates, were analyzed in conjunction

with the data presented in Chapter IV as to whether they are supported (confirmed) or not supported (rejected). Further, the degree of confirmation or rejection of the postulates and propositions led to the development of strategies for responding to the problems related to changes in revenues at community colleges, which will be presented in Chapter V. The propositions are as follows:

Postulate I

Where there were changes in sources of revenues at community colleges, they were usually a result of changes in state funding or fiscal restraints imposed by the state legislature. The results of the changes, although dollars had actually increased, was that the proportion of dollars from state sources had decreased.

Proposition I-A

Institutions attempted to increase revenues by raising tuition, increasing fundraising and development efforts, and by making some activities self-supporting.

Proposition I-B

Institutions attempted to decrease expenditures by implementing across-the-board cuts, deferring maintenance, and increasing the use of part-time faculty.

Proposition I-C

Institutions attempted to become more efficient by raising student-faculty ratios and instituting hiring freezes/nonreplacement of faculty and staff.

Proposition I-D

Institutions protected the instructional program area by making little or no changes in it; when changes were made, they were made

according to plan, such as using program review, priorities, planning data, and incorporating the changes into the long-range goals and plans of the institution.

Postulate II

The effectiveness of the strategies implemented as a result of changes in revenues is a function of the characteristics of the community college and its environment.

Proposition II-A

Assertive leadership of the chief executive officer was crucial to instilling a clear and strong sense of institutional mission during periods of changes in sources of revenues.

Proposition II-B

Close attention to constituencies and to the process of faculty and staff involvement in the priority and decision-setting processes was crucial to the acceptance of the plans, as well as to the maintenance of the morale and innovation within the institution.

Proposition II-C

The skills and mindset to deal with changes in revenues were often lacking due to prior periods of growth; therefore, institutions tended to respond conservatively, avoid program risk-taking or hard personnel decisions.

Proposition II-D

Strategies were often limited in scope and application due to the lack of control of external variables present in the environment (i.e., state-set tuition levels, state and local economy, and legislative policy).

It appears clear from the literature reviewed that the changing environment permeating higher education has produced new trends in the sources and amounts of revenue for community colleges. Funds from the traditional state and local revenue sources to community colleges began to decline in the 1970s due to inflation and shifts in legislative priorities (Henderson, 1982). The effects of these changes have included the development of responses and strategies by community colleges to adjust to the changes in revenues, often at the expense of the institutional mission. The funding experience of the 1960s and 1970s created a growth orientation which has dominated the management of community colleges. This growth orientation became disfunctional in the late 1970s, contributing to the lack of data-based recommendations and strategies regarding the management of an organization experiencing revenue decline conditions caused by inflation and rising costs. Whetten (1980) contended that even systems theory, which emphasizes the need for an institution to adjust to environmental changes, suggests "that an organization must grow in order to maintain a steady state relationship with its environment" (p. 579).

In the review of related studies, it was found that changes in revenues, particularly if they were of a negative nature, were the primary stimulus for changes in the organization. The changes in the organizations were usually related to the strategies implemented as a result of the revenue changes. For instance, when institutions implemented across-the-board cuts there were sometimes changes in the institutional budgeting processes. Also, at some institutions a review of institutional missions and goals followed the implementation of certain strategies, such as cutting back in non-instructional or

student service areas. The most prominent themes found in the literature identified through the development of the postulates and propositions will guide the analysis of the data in Chapter IV and the development of the strategies recommended for community colleges experiencing revenue changes presented in Chapter V.

CHAPTER III
METHODOLOGY

This chapter provides a description of the specific methodology employed for addressing the research problem, that is, determining which strategies and adaptations have been utilized in order to minimize the problems attributed to changes in revenues at community colleges. The procedures developed and utilized in collecting data for this study are described and summarized in this chapter. In addition, the logical relationship between the problem statement and the methodology utilized for this study is demonstrated through utilization of the research technique of triangulation, that is, the use of a variety of sources of data and multiple methods to study the research problem (Denzin, 1978).

The research methodolgy of this study consisted of the following elements: (a) identification of the research population, (b) selection of the sample for field study, (c) development of an instrument, (d) collection of data, and (e) analysis of the data. This investigation began with informal interviews with two administrators at two community colleges in January, 1984. Both of the community colleges are members of the League for Innovation in the Community College. One of the administrators interviewed was a community college president. Each administrator was asked to describe the degree of change in sources of institutional revenues for the period 1979 through 1983 at their institution. If changes had occurred, each administrator was asked to describe what, if any, problems had been created at the institution

because of the revenue changes. In addition, each administrator was asked what responses the institution had employed to counteract the problems and if they perceived the responses to be effective (i.e., to maintain the mission of the college). The results of the informal interviews reflected a consensus among the perceptions of these community college administrators that changes in sources of revenues were creating problems at community colleges. The findings also revealed differing perceptions regarding the effectiveness of specific responses to deal with the situation created by the revenue changes. The findings of the informal interviews reinforced the need for the study and provided a basis for the formulation of the survey instrument developed by the researcher.

Research Population

The research population for this study consisted of the 18 community college districts that are member institutions of the League for Innovation in the Community College (see Appendix A). The League, an educational consortium noted for national leadership and development in the community college field, functions specifically to stimulate experimentation and innovation in community colleges. The 18 League member districts are comprised of 54 public community colleges, represent 13 states, enroll over 850,000 students, and have a combined faculty and staff of 25,000. Membership in the League is by invitation only; the current board policy is to limit membership to no more than 18 community college districts.

Sample Selection

The selection of the sample for this investigation consisted of two phases. The first phase was the distribution of the researcher-developed

survey instrument to the chief executive officers of the entire population, that is, at all 18 of the community college districts in the League for Innovation. The rationale for using this strategy was to increase the likelihood that the survey data collected were representative of the entire population of interest. Also, distributing the survey to the entire population increased the degree of external validity, or, generalizability, of the study.

The second phase of the sample selection employed a combination of quantitative and purposeful sample selection techniques in the selection of three community colleges for in-depth field study. The purpose of the field studies (i.e., to study in-depth the situation, environment, and perceptions regarding the effectiveness of the actual responses employed to adapt to changes in sources of revenues at community colleges) increased the need for a sample of varied and extreme cases.

In order to identify varied and extreme cases for field study, data from a national study of community college finance conducted by the National Association of College and University Business Officers (NACUBO, 1984) were used. Thirteen League community colleges were identified as participants in the study for the baseline period of interest (i.e., 1979 through 1983). The 13 League community colleges were contacted by the researcher requesting permission for the release of their individual institutional financial statistics as reported to NACUBO for the study. Of the total 13 League colleges contacted, all 13, or, 100%, granted permission for the data release by NACUBO to the researcher. The data were released from NACUBO to the researcher in June, 1984. The data from NACUBO were limited to financial statistics

for only 10 of the 13 League colleges identified for the period from 1980 through 1983 because of a change in the data processing program used by NACUBO in 1980 which restricted access to the data.

Descriptive statistics were used in the analysis of the NACUBO data in order to identify the community colleges with the greatest degree of change in current operating revenues from 1980 through 1983. The financial data were interpreted using frequency distributions and measures of central tendency. The purposes of utilizing frequency distributions were to identify patterns in the distribution of scores and to identify the most frequently occurring class of scores (Huck, Cormier, & Bounds, 1974). The identification of the means and standard deviations for the selected community colleges for the years 1980 through 1983 identified the institutions with the greatest degree of change in current revenue categories (i.e., those which deviated more than one standard deviation from the mean). It should be noted that no attempt was made to rank or analyze interinstitutional revenue mixes, as comparisons are limited in use and difficult to make due to the wide range of financing schemes in different states and localities. Further, the lack of control that administrators have over the setting of tuition and appropriation levels makes medians and quartile comparisons of dubious statistical value. The composite means and standard deviations are presented in Table 3-1.

In addition to the NACUBO financial data, additional criteria were employed for the selection of the three community colleges for field study. The additional criteria included the following:

1. Willingness to participate.
2. The size of the institution, that is, at least one community

Table 3-1
Changes in Current Operating Revenues
1980-81 through 1982-83

Sources of Revenues

Institution	Credit Tuition and Fees	State Appropriations	Local Appropriations	Gifts, Grants & Contracts Federal	Gifts, Grants & Contracts State & Local	Other	Total SD from the m in all six categories
A	2.8	-4.1	-2.2	5.7	-1.2	-.9	1
B	1.9	-2.1	n/a	1.1	.6	.2	2
C	-.1	.6	n/a	4.3	.3	-2.1	3
D	-2.6	-4.1	-.9	3.1	1.8	-1.1	0
E	3.7	-4.5	3.7	1.2	0	-4.2	4
F	1.0	-4.6	-2.2	5.0	.7	.9	3
G	-3.8	5.3	-4.7	.7	-.7	2.6	4
H	2.6	-9.7	.5	5.4	3.7	-1.4	3.5
I	3.7	-1.4	-2.1	-2.2	2.3	-.9	2
J	.9	-5.0	-1.0	3.2	1.7	.1	2
Mean of the category	2.31	4.14	1.73	3.2	1.92	1.48	2.45
Standard deviation	1.23	2.4	1.48	2.1	.95	1.13	

n=10

college generating less than a total credit and noncredit enrollment of 8,000 full-time equivalent (FTE) units and at least one community college generating more than a total credit and noncredit enrollment of 12,000 full-time equivalent (FTE) units.

3. The size of the service area, that is, at least one commmunity college from a total service area population greater than 250,000 but less than 500,000 and at least one community college from a total service area population in excess of 500,000.

4. The geographic location of the institution, that is, at least one community college from the southern/western region of the United States and at least one community college from the northeastern/midwest region of the United States.

5. The comprehensiveness of the mission of the institution, that is, the scope of the community college mission should encompass the six functions of transfer preparation, occupational education, developmental or compensatory education, general education, guidance, and community service (including adult/continuing education).

The selection procedures combined quantitative data analysis and purposeful sample selection techniques, using criteria, judgement, and strategy on the part of the researcher. The three community colleges selected for in-depth field study met the majority of the selection criteria as well as provided a diversity of institutional characteristics.

Although the problem of small sample size is present in the method employed, the maximization of variation in case selection increased the likelihood of greater representativeness and generalizability to other community colleges. Patton (1980) stated: "While studying one or a few critical cases does not technically permit broad generalizations to

all possible cases, logical generalizations can often be made from the weight of evidence produced in studying a single, critical case" (p. 130). Further, increasing the diversity in the sample, although the sample size remains small, affords the researcher more confidence in patterns that emerge as common among cases as well as characteristics that emerge as unique to the different settings (Patton, 1980, p. 102).

Instrument Development

Data for this study were collected by means of two separate researcher-developed instruments. The first instrument was a survey questionnaire (See Appendix B) developed to assess the perceptions of the chief executive officers of the 18 League community college districts as to the effectiveness of specific strategies for adapting to changes in revenues. A secondary purpose of the survey instrument was to validate the findings in the literature review and establish standards against which the theoretical propositions were evaluated in the analysis of the data. The second instrument developed was an interview guide (see Appendix C) used to facilitate the data collection of the perceptions of institutional personnel at the three community colleges selected for field study.

The survey questionnaire was developed based on the institutional adaptations to revenue changes found in the review of the literature and from information obtained from the informal interviews conducted with administrators at two League community colleges experiencing changes in sources of revenues. The informal interviews facilitated the task of developing good objective questions through the administration of open-ended forms of the survey questions to a small sample

of subjects representative of the population of interest (Issac & Michael, 1975).

The survey questionnaire was pilot-tested during a field visit to two community colleges representative in size, comprehensiveness, and mission to those community colleges involved in the study. In addition, several community college personnel reviewed the instrument for clarity and content validity. Upon subsequent revision of the instrument, the final draft incorporated a Likert-type ordinal rating scale to assess the perceptions of the chief executive officers at the 18 League community college districts as to the effectiveness of specific institutional adaptations and strategies an institution may employ to deal with revenue changes. The five-point rating scale included a range from one, signifying not at all effective, to five, signifying extremely effective. Each interval between the five points on the scale was assumed to be equal (Tuckman, 1978).

The second instrument developed by the researcher was an interview guide for the interviews conducted at the three League community colleges selected for field study. The questions included in the interview guide were designed to facilitate answers to the following questions:

1. Based on the revenue changes that have occurred at the institution, have related changes or problems occurred?
2. Have specific strategies and adaptations been implemented to counteract the impacts and effects created by the changes in revenues? If so, what were the strategies and how effective were they perceived to be?

3. What effect, if any, have the changes in revenues had on the institution, and how effectively has the institution responded in terms of maintaining the institutional mission?

4. What are some of the strengths of the institution as well as restrictions that have influenced the course of events at the institution?

The interview instrument was pilot-tested over a three day period consisting of 10 interviews at two community colleges similar in size, scope, and mission to the League colleges involved in the study. Subsequent revisions of the interview instrument incorporated the suggestions and eliminated the deficiencies revealed in the pilot tests.

Data Collection

The data for this investigation were collected in two phases. First, the survey instruments were distributed to each of the chief executive officers of the 18 member districts in the League for Innovation. The distribution of the surveys occurred through a mail-out on June 6, 1984. A cover letter describing the primary focus of the study and assuring anonymity was included with the survey. Replies from 14 of the 18 chief executive officers were received by the designated deadline of June 15, 1984. Follow-up letters and telphone calls were used to contact nonresponding subjects after the established return deadline has passed. The follow-up attempts resulted in securing the remaining four surveys from the chief executive officers by August 3, 1984.

The total number of responses to the survey instrument was 18 of 18, or, a 100% return rate. This high rate of return influences both the external and internal validity of the results, and establishes a

greater possibility for generalization among the perceptions regarding the effectiveness of specific responses to changes in sources of revenues.

Prior to the second phase of the data collection (i.e., field studies), the chief executive officers of the three institutions selected for field study were contacted and asked for their consent and cooperation in conducting a study on changes in revenues and their institutional adaptations to revenue changes. Included in the letter requesting cooperation was a brief description of the purpose and anticipated outcome of the study. In addition, concurrent cooperation was received from the Executive Director of the League for Innovation and from the appropriate staff associate at NACUBO.

The second phase of the data collection for this study was conducted by the researcher during individual site visitations to the three community colleges selected for in-depth field study. A field study guide developed by the researcher was used to prepare for the site visitation and to guide the actual data collection in the field (see Appendix D). The site visitations lasted from four to five days at each institution. The majority of meetings and interviews were prescheduled in conjunction with the designated League representative at the institution. Additional meetings and interviews were scheduled on-site according to the availability of specific institutional personnel.

Personal interviews were conducted with 11 respondents at each of the three institutions by the researcher. Interviewee respondents at each community college included the president, chancellor or chief executive officer, if available; a provost or executive vice-president; the chief institutional budget officer; the chief student personnel services officer; the foundation director; two deans or directors of

instructional programs most directly affected by revenue changes; the staff development director or dean; the chief institutional planning officer; and three selected faculty and staff from departments most directly affected by revenue changes.

Consequently, interviews were accomplished with a total of 33 participants; each interview lasted approximately one hour. Each interviewee responded to questions posed by the researcher based on the interview guide (See Appendix C). Responses were recorded by the researcher in written form; further clarification of responses was requested when deemed necessary by the researcher. The interviewees supplemented their verbal responses with documents in many cases, such as departmental reports, budget memos, and written policies. The reliability of the interview responses was checked by cross-checking the intra-institutional responses to certain items as well as cross-checking the responses with the available documentation. Inter-institutional reliability was checked by the researcher by comparing the responses of the same items on the interview guide between institutions. External validity was increased by the design of the persons selected to be interviewed, that is, persons in the same or comparable positions at each institution.

After the interviews and field visitations were completed, the data were summarized and executive summaries of the data prepared by the researcher were sent to the League representatives of the involved institutions for their reaction and feedback. The feedback received from the League representatives was included in the final analysis of the field study data in Chapter IV.

Analysis of the Data

Data analysis is the process of bringing order to the data by organizing the data into patterns, categories, and basic descriptive units (Patton, 1980). Several approaches to data analysis as well as to data collection were used in this study. This combination of methodologies in the study of the same phenomena is known as triangulation (Denzin, 1978; Patton, 1980). Triangulation allows the researcher greater flexibility in the data collection process, such as collecting data through both qualitative and quantitative methods. Besides the obvious advantage of the comparability of the data collected, two additional advantages of this technique that contribute to the verification and validation of data analysis are, according to Patton (1980) (a) checking out the consistency of findings generated by different data collection methods and (b) checking out the consistency of different sources within the same method.

The analysis of the survey data for this study incorporated the quantitative techiques of descriptive statistics to identify the institutional strategies perceived as most effective by the chief executive officers of the League institutions during periods of changes in revenues at community colleges. The responses from each individual survey were keypunched on data processing cards and run on an IBM 360 mainframe computer during August, 1984. The resulting output displayed the composite data in an item analysis format for each individual question on the survey. The item analysis included the arithmetic mean and standard deviation for each survey item; the means and standard deviations were displayed for both yes and no responses.

The data were interpreted and presented using frequency distributions, means, standard deviations, and rank order computations. The data were displayed in tabular format and accompanied by a narrative summary. The complete results of the survey data analysis are presented in Chapter IV.

The rank summary of responses was used to establish the criteria for categories regarding the perceived effectiveness of the survey responses. The criteria for data inclusion were developed by the researcher in order to place composite responses in categories of effectiveness. The standards used to develop the criterion were based on achieving majority or greater of the number of respondents to each item on the survey; the decision rules established for the standards for the means were based on the rating scale identified in the survey instructions. The decision rules establishing the criteria for data inclusion were as follows:

1. For inclusion in the category of most effective, the number of responses must total eight or more and the mean must be equal to or greater than 3.70.
2. For inclusion in categories of average in effectiveness, the number of responses must total eight or more and the mean must be between 3.20 and 3.69.
3. For inclusion in the category of least effective, the number of responses must total eight or more and the mean must be equal to or less than 3.19.

The results of the survey data analysis were used to check the validity of the theoretical propositions and to faciliate the development of guidelines for community colleges when responding to problems related

to changes in revenues. The results of the survey data analysis are presented in Chapter IV.

The nature of the field study data collected during the in-depth interviews and document inspection lent itself to analysis in several ways. The analysis of qualitative data of this nature typically follows no formal or universal rules. The lack of limitations aligns well with the nature of the inductive method of qualitative discovery. For example, Guba (1978) described the "discovery oriented approach" as minimizing the manipulation of the study setting by the researcher. Further, Guba (1978) described this approach as lacking prior restraints on what the outcomes of the research will be, as opposed to the restraints present when pure scientific inquiry is conducted.

Prior to the field study data analysis a decision rule was established by the researcher as a guide for the inclusion of data from the interviews. The decision rule was: If 40% or more of the interviewees gave the same response to an item, the item was included in the overall summary matrix analysis presented in Chapter IV. This inclusion rule increased the external validity of the study by allowing only those responses that nearly met a majority of the responses received from the interviewees. The internal validity and reliability of the data were cross-checked through the comparison of interviewee responses. The data from each individual field study were analyzed and presented for each institution in a case study format. In addition, the overall data from all three institutions were presented in tabular and matrix formats accompanied by a descriptive narrative.

The purposes of classifying the institutional data in case study format were to identify patterns and themes within a particular setting

and across cases. The analysis organized the data by specific cases of each institution, thus permitting in-depth study of each case. Included in the case study data for each institution were the interview data, the documentary data, the observational data, and general impressions and statements of the researcher and others regarding the case. The case study analysis incorporated an inductive approach, allowing relationships between variables to emerge from the analysis process itself. The complete case studies, matrices, and descriptive narratives are presented in Chapter IV.

CHAPTER IV
RESULTS

This study attempted to determine the nature of changes in sources of revenues at community colleges, the strategies and adaptations that have been utilized at selected community colleges in order to minimize the problems associated with the changes, and which strategies were perceived as effective by the chief executive officers of the selected community colleges. The results of the study were determined by assessing the perceptions of the chief executive officers of the League institutions regarding the effectiveness of specific strategies, by interviewing institutional personnel at three selected community colleges, and by conducting in-depth field studies at the three selected institutions. First, the results of the survey are presented. Second, the results of the in-depth field studies and personal interviews are presented. Finally, the theoretical propositions developed and presented in Chapter II are either confirmed or rejected based on the results.

Results of the Survey

The purpose of the survey was to measure the perceptions of the chief executive officers of the League institutions as to the effectiveness of specific strategies a community college might implement when experiencing a decline in sources of revenues. For the purpose of the survey, effectiveness was defined in terms of how well the strategies contributed to maintaining the overall goals of the institution. The rating scale for the survey was as follows:

1 - not at all effective
2 - below average in effectiveness
3 - about average in effectiveness
4 - above average in effectiveness
5 - extremely effective

The results of the chief executive officers' perceptions are based on the entire population of interest, that is, all 18 of the League chief executive officers. The total number of responses to the survey instrument was 18 of 18, or, 100% of the population. All surveys returned were usable; therefore the results are based on a 100% effective return rate. The results of the survey are presented in tabular format accompanied by a narrative explanation.

Effectiveness Ratings of Strategies

Strategies perceived as most effective. Listed in Table 4-1 in rank order are the strategies perceived as most effective by the chief executive officers. The statistics are based on those who ranked the strategy after indicating that they had used the strategy in the last three to four years. Since the respondents indicating no (they had not used the strategy) did not rank the strategy, only those respondents indicating yes (they had used the strategy) are included in the analysis. Only strategies used by eight or more of the respondents are included in the table; the mean of the strategies included are all 3.70 or above. Although strategies used by less than eight of the respondents were not included in the table, it should be noted that three of the strategies listed in the survey had a mean rating of 4.25 and above, although they were used by only three to four of the respondents. The strategies include review/change enrollment-driven funding formula, mean = 4.25; sell or rent unused or underutilized facilities, mean = 4.33; and contract for services such as bookstore or daycare, mean = 4.67.

The strategies ranked as most effective which were used by the greatest percentage of the respondents were initiate retirement options, used by 89% and increase cooperative relations and linkages with business and industry, also used by 89% of the respondents. The percentages reflecting those respondents who have tried the strategies within the past three to four years are also presented in Table 4-1.

Strategies perceived as average in effectiveness. The strategies perceived as average in effectiveness, falling within the mean ratings from 3.20 to 3.69, are presented in Table 4-2. Nineteen strategies, or 49% of the total strategies listed in the survey, fell within the average in effectiveness range. There appears to be strong consensus in regard to the ratings in this category. The low standard deviations in this rating category reflect a greater consensus regarding the effectiveness of the strategies in this category as compared to the category of most effective. It should also be noted that a significant number of the strategies listed in this category refer to faculty and staff usage.

Strategies perceived as least effective. As can be seen from Table 4-3, seven strategies were perceived as least effective by the chief executive officers; least effective strategies were defined with a mean rating of 3.19 or below. Although only four of these strategies were used by more than half of the respondents, all of the strategies perceived as least effective related to deferral and reductions of expenditures and across-the-board cuts.

Effectiveness rankings of the most frequently used strategies. Table 4-4 presents a ranking of the strategies and their perceived effectiveness according to the total percent of the respondents

Table 4-1

Strategies Perceived as Most Effective

Strategy	Mean	Standard Deviation	N (yes responses)	Percent of total
Attempt raising the local millage level/taxes	4.13	1.05	8	44%
Initiate retirement options	4.00	1.00	16	89
Raise student/faculty teaching ratio	3.91	.90	11	61
Increase cooperative relations and linkages with business and industry	3.88	.70	16	89
Attempt to make some activities self-supporting	3.87	.90	11	61
Increase student recruitment efforts	3.85	.77	13	72
Increase the use of part-time faculty	3.85	.66	13	72
Increase fundraising and development efforts	3.75	1.03	10	56
Renew and redefine institutional mission and goals	3.73	.96	12	67
Institute a hiring freeze	3.70	1.1	11	61

Table 4-2

Strategies Perceived as Average in Effectiveness

Strategy	Mean	Standard Deviation	N (yes responses)	Percent of total
Reassign faculty and staff	3.69	.82	13	72%
Limit non-FTE-producing programs and services	3.67	.94	10	56
Charge user fees for services	3.63	.70	9	50
Increase public relation efforts	3.62	.84	13	72
Retrain faculty and staff	3.55	.78	11	61
Reduce non-instructional staff	3.54	.84	13	72
Share staff among campuses or departments	3.54	.84	14	78
Attempt to reduce student attrition	3.53	.85	17	94
Increase the recruitment of new student populations	3.50	.73	14	78
Increase lobbying efforts	3.50	1.06	16	89
Raise tuition/student fees	3.50	1.12	15	83
Increase institutional long-term planning efforts	3.46	.71	15	83
Target reductions through an institution-wide program review process	3.45	.78	12	67
Implement cost-analysis studies	3.38	.70	17	94
Involve faculty and staff in the reallocation process	3.38	.93	16	89
Reduce the number of course sections	3.35	.88	12	67
Encourage staff and faculty development programs	3.35	.76	17	94

Table 4-3

Strategies Perceived as Least Effective

Strategy	Mean	Standard Deviation	N (yes responses)	Percent of total
Institute across-the-board-cuts	3.00	.71	8	44%
Reduce travel expenditures	2.82	.94	12	67
Defer equipment purchases	2.58	.92	16	89
Defer major maintenance expenditures	2.27	1.14	11	61
Use up excess revenues/ fund balance	2.11	.74	9	50

Table 4-4

Effectiveness Rankings of the Most Frequently Used Strategies

Rank Order	Strategy	Percent of total	Effectiveness Rating (mean)
1	Reduce student attrition	94%	3.53
2	Cost-analysis studies	94	3.38
3	Faculty/staff development	94	3.35
4	Retirement options	89	4.00
5	Business/industry cooperation	89	3.88
6	Increase lobbying	89	3.50
7	Involve faculty/staff	89	3.38
8	Defer equipment purchases	89	2.28
9	Raise tuition/fees	83	3.50
10	Increase planning	83	3.46
11	Share staff	78	3.54
12	Increase student recruitment*	72	3.85
	Increase part-time faculty*	72	3.85
13	Reassign faculty/staff	72	3.69
14	Increase public relations	72	3.62
15	Reduce non-institutional staff	72	3.54

*indicates tie rankings

that indicated they had tried the strategy. For the most part, the strategies most frequently used fell within the personnel and enrollment areas, as well as appear to be process-oriented. It is interesting to note that of the 16 strategies which 72% or more of the respondents tried, only one fell below 3.35 in effectiveness rating (defer equipment purchases = 2.82).

Effectiveness rating by type of strategy. A related illustration of the effectiveness of specific strategies is presented in Table 4-5. The strategies are grouped according to type of strategy (personnel, revenues, expenditures, enrollment, and process). Only strategies tried by 50% or more of the respondents are included in this table; the total number of strategies illustrated is 28, or 72% of the total.

The types of strategies most frequently tried by the respondents fell within the process (81%), enrollment (78%) and personnel (71%) categories. The type of strategy with the highest average effectiveness rating is the revenue type (mean = 3.78), followed by the personnel type (mean = 3.72). Both means, 3.78 and 3.72, fall within the most effective range. It is interesting to note that although the revenue type of strategies was tried by an average of only 59% of the respondents, it was ranked highest in overall effectiveness at 3.78. The lowest ranked type of strategy, expenditures, was tried by 66% of the respondents and was ranked with an average of 2.51, falling in the least effective category.

Measures of Central Tendency and Frequency Distribution

The grand mean of the perceived effectiveness strategies listed was 3.50, which would fall in the average in effectiveness category. The mode, or most frequently occurring rating, was also 3.50, which indicated

Table 4-5

Effectiveness Rating by Type of Strategy

Type of Strategy	Percent Tried	Effectiveness Rating (mean)
ENROLLMENT		
Increase recruitment	72%	3.85
Reduce attrition	94	3.53
Reduce course sections	67	3.35
n=3	m=78%	m=3.58
EXPENDITURES		
Limit non=FTE activities	56%	3.67
Cost-analysis studies	94	3.38
Across-the-board reductions	44	3.0
Reduce travel expenditures	67	2.82
Defer equipment purchases	89	2.58
Defer maintenance	61	2.27
Use up fund balances	50	2.11
n=7	m=66%	m=2.51
PERSONNEL		
Retirement options	89%	4.00
Raise teaching ratios	61	3.91
Increase part-time faculty	72	3.85
Hiring freeze	61	3.70
Reassign faculty/staff	72	3.69
Retrain faculty/staff	61	3.55
Reduce non-instructional staff	72	3.54
Share staff	78	3.54
n=8	m=71%	m=3.72
PROCESS		
Business/industry cooperation	89%	3.88
Review mission/goals	67	3.72
Increase public relations	72	3.62
Increase lobbying	89	3.50
Increase planning	83	3.46
Program review	67	3.45
Involve faculty/staff	89	3.38
Faculty/staff development	94	3.35
n=8	m=81%	m=3.55
REVENUES		
Raise millage/taxes	44%	4.13
Self-supporting activities	61	3.87
Increase fundraising/development	56	3.75
Charge user fees	50	3.63
Raise tuition/fees	83	3.50
n=5	m=59%	m=3.78

consistency in the rating of strategies. The median was 3.54 and the range of ratings fell within 2.11 to 4.67. The overall mean of the standard deviations was .87, which by itself is difficult to interpret but could be an indication of general consensus among the ratings of the respondents.

The measures of central tendency as well as the ratings presented in this chapter are based on the respondents which indicated that they had used the strategy in the last three to four years. The no responses were not incorporated into the statistical analysis because the respondents indicating that they had not used the startegy did not go on to rank the strategy based on how effective they believed it would be if they had tried it. Although this occurrence limited the possibility of including this variable in the analysis, the overall external validity of the results may be greater because the ratings were generated only from those chief executive officers who indicated they had in fact used the strategy. In other words, the ratings are based on actual practices, not on speculation as to how effective the strategies may have been if they were used.

The general distribution of the scores is illustrated in the frequency distribution presented in Table 4-6. Although no parametic tests were used, the scores are distributed quite evenly, closely approximating the normal curve. As can be seen from the overall distribution of scores presented in Table 4-7, there is a tendency for the scores to cluster near the middle of the distribution. Nearly half, or 48.7% of the overall total scores fell within the 3.99 to 3.50 range. The 3.49 to 3.0 range encompassed 20.5% of the total scores. The lower and higher ends of the distribution were evenly matched, with

Table 4-6

General Distribution of Scores

Class Interval	Overall Frequency	Percent of Area	Frequency of Yes Responses
5.00 - 4.50	1	2.6%	0
4.49 - 4.00	5	12.8	2
3.99 - 3.50	19	48.7	19
3.49 - 3.00	8	20.5	7
2.99 - 2.50	3	7.7	2
2.49 - 2.00	3	7.7	2
	n=39	100.0%	n=22

Table 4-7

Overall Distribution of Scores

Score	Overall Frequency	Range	Percent of Total Area
4.67	1	5.00-4.50	2.6%
4.33	1	4.49-4.00	12.8%
4.25	1		
4.13	1		
4.00	2		
3.88	1	3.99-3.50	48.7%
3.87	1		
3.85	2		
3.75	1		
3.73	1		
3.70	1		
3.69	1		
3.67	1		
3.63	1		
3.62	1		
3.55	1		
3.54	2		
3.53	1		
3.50	4		
3.45	1	3.49-3.0	20.5%
3.43	1		
3.38	2		
3.35	2		
3.00	2		
2.82	1	2.99-2.50	7.7%
2.67	1		
2.58	1		
2.40	1	2.49-2.00	7.7%
2.27	1		
2.11	1		
	n=39		100.0%

six, or 15.4% of the scores falling below 3.0 and six, or 15.4% of the scores falling above 4.0.

Field Studies and Interviews

This section presents the results of the in-depth field studies and the interviews conducted at the three selected community colleges. The purposes of the field studies and interviews were to determine the nature of changes in revenues at the institutions, to discover the strategies implemented to minimize the problems attributed to the revenue changes, and to determine the perceptions of institutional personnel regarding the strategies implemented to adjust to the changes. The institutions visited ranged from a medium size single-campus community college to a large multi-campus college in a major metropolitan setting. The field studies, conducted during June, July, and August 1984, lasted from four to five days at each institution. A standard interview protocol guided all interviews and is included in Appendix C; 11 personnel were interviewed at each institution. In addition, document analysis, field notes and informal observations contributed to the results. The three case studies, reflecting institutional operations and perceptions as of August 1984, have been critiqued by institutional representatives to avoid factual errors.

The results of the three field studies are presented in this chapter in case study format, including an institutional profile, an overview of funding, a chronology of changes in revenues and enrollments, and the institutional perceptions. In addition, a summary section ties together the individual interview results into a composite synthesis.

Santa Fe Community College

Institutional Profile

Santa Fe Community College was established by the Florida State Legislature in 1965 as a comprehensive public community college to serve the counties of Alachua and Bradford in north central Florida. The open-door policy and concept of total service to the community of the college is reflected in the college mission statement (Santa Fe Community College Catalog, 1984):

> Santa Fe Community College is a comprehensive community college with an open-door policy and is firmly committed to equal access and equal opportunity for all persons. Placement in the college is on the basis of testing and counseling. The mission of the college is to offer opportunities to develop intellectual capacities, occupational aptitudes and avocational interests so as to contribute to students' personal growth and to meet contemporary society's needs for informed, concerned and responsive citizens. (p. 10)

The college has grown from an institution of 889 full-time equivalent students with 102 full-time and part-time faculty in 1966 to a total of 5559 academic full-time equivalent students with over 370 full- and part-time faculty in 1982. The growth in the service district of the institution has also been significant; the 1980 census for the combined counties of Alachua and Bradford was 171,371.

Santa Fe Community College is located in one of the richest agricultural centers of the state. The major occupational group in the city in which the college is located (i.e., Gainesville) is government, which makes up 43.12% of all employment. The University of Florida, Shands Teaching Hospital, and a large Veterans Administration Hospital are located in Gainesville in addition to some light industry. The tourism industry also contributes to the economy of the area.

Santa Fe Community College operates primarily on a main campus of 125 acres and has a total of 30 buildings. The college operates two off-campus centers: One is located in Bradford County and the other is the college's Police Academy at the Gainesville Municipal Airport. The completion of a building on the main campus for the college's health related programs enabled the sale of the southwest Gainesville Center that had previously housed the health programs. The college offers college transfer programs, occupational programs, community education programs, and is the designated area vocational education school. Santa Fe Community College's 1983 enrollment consisted of over 10,000 students in all programs (unduplicated student headcount). The college prides itself on the fact that it attracts 40 percent of the top 10 percent of its district's graduating seniors. The college employs 228 full-time faculty, 245 career service staff, 39 administrative personnel, and 17 professional specialists.

The college is governed by an eight member Board of Trustees appointed by the Governor in four-year staggered terms. State regulations provide a clear differentiation between the policy-making role of the Board and the management role of the president. The president of the college, who has held the office since 1971, succeeded the founding president of the institution, Joseph W. Fordyce. Three principal administrators report directly to the president, and the six top-ranking administrators of the college comprise the president's administrative council. The College Senate, comprised of all individuals on annual and continuing contracts, plays a major role in the organization and governance of the college. Another governing body comprised

of career service employees also contributes to the governance of the college.

The college has an Endowment Corporation that has been in existence since 1971. The Santa Fe Community College Community Gallery of Art is the first community college art gallery approved by the National Gallery of Art and Smithsonian Institutions for loan of high security exhibitions. The college Biological Parks Training Program and Zoo is the only one of its kind in the nation in an educational institution. The college has established linkages with the business community by providing training and assessment for local industries. Santa Fe Community College is accredited by the Southern Association of Colleges and Schools; most recent accredition was granted in 1982. In addition, Santa Fe Community College is a charter member of the League for Innovation in the Community College as well as a charter member of the Florida Community Junior College Inter-Institutional Research Council, the research consortium for Florida's community college. The college ranks 11th in enrollment size of Florida's 28 community colleges and operates with an annual budget of over 18 million dollars for the 1984-85 fiscal year.

Funding

Florida's 28 community colleges operate under a balance of local control with state coordination and support; state support has for the most part been consistent with the steady enrollment growth in the community colleges. The colleges are funded by the state through an annual College Program Fund Appropriation (CPFA) on a program cost basis which differentiates thirty four programs; the program costs factors have been determined by state level studies. The formula

allows funding at a higher rate for smaller schools and withholds revenues if a college does not achieve the number of full-time equivalents assigned. Wattenbarger and Heck, in their 1983 study of community college finance, describe the funding environment for the community colleges in Florida:

> Salary increases, rising energy costs, new facilities, and inflation form the bases for annual revenue increases. Currently, the state provides 66.5% of the total operation costs with student fees providing 22.2% and the federal government providing 6.7%. (p. 15)

Due to a legislative change in the contact hours required in occupational programs, enrollment trends are emerging that indicate the leveling off of occupational programs and modest increases in other programs (Santa Fe Community College Self-Study, 1982, p. IV-16). For the most part, state appropriations to educational sectors in Florida have roughly kept pace with inflation, but the community colleges have fallen behind somewhat because of a higher growth in FTE than the K-12 or state university system sectors. In addition to the restrictions imposed by state funding, the student matriculation fees for community colleges are capped by law, thereby limiting the flexibility on the part of the colleges to raise tuition.

The system of funding community colleges in the state of Florida imposes several restrictions on certain funds by making them categorical in nature, such as for special faculty salary increases, staff and program development, and for the improvement of academic standards. In some instances, the lack of funds to support state mandated requirements and increases in accountability have created major problems for community colleges. In addition, funding levels are extremely sensitive to shortfalls in state revenue collection as the state sales tax constitutes

the major revenue-producing category of the budget. Funds for capital projects and improvement have historically had strong state commitment, yet have been diminished by the veto of the governor in recent years.

Chronology of Changes in Revenues and Enrollments

Santa Fe Community College has experienced concurrent downturns in enrollment and appropriations from the state (see Tables 4-8 and 4-9). The enrollment decline reflects a general pattern of leveling enrollments at community colleges on a state-wide basis. Inflation and downturns in the state's economy were dramatized by cuts in state appropriation in 1981-82 and again in 1982-83. The 1981-82 cut was 1.2% and the 1982-83 cut was 4.7% of the original appropriations.

In addition to the demonstrated changes in enrollments and sources of revenues at the institution, several other changes were identified in the college's Self-Study report (1982). The changes include the following:

1. There was a decline in the percent of the budget allocated to instruction;
2. There was a decrease in the number of full-time faculty and an increase in the number and proportion of part-time faculty (see Table 4-10);
3. There was an increase in the average class size;
4. More financial resources were required for evaluation and follow-up activities due to legislative emphasis on quality and accountability; and
5. Expenditures for plant operations were escalating at a greater rate than other categories of expenditures; this was primarily due to rising utility rates.

Table 4-8

Changes in Enrollment, 1980-85
Santa Fe Community College

Year	FTE Enrollment
1980-81	5777
1982-83	5559
1984-85	5101 (projected)

Source: Santa Fe Community College Institutional Self-Study Report (1982)

Table 4-9

Changes in Sources of Revenue
Santa Fe Community College

Revenue Source	Percent of Total Revenues 1980-81	1981-82	1982-83
Tuition and Fees	21.7%	23.8%	23.5%
State Appropriations	64.7	65.1	62.5
Grants, Gifts and Contracts	11.3	9.3	12.5
Other	2.1	1.8	1.5

Source: NACUBO Comparative Financial Statistics for Public Community and Junior Colleges (1982; 1983; 1984)

Table 4-10

Proportion of Part-Time Faculty to Full-Time Faculty, 1976-80
Santa Fe Community College

	Faculty		
Year	Full-Time	Part-Time	Percentage of Part-Time Faculty
1980-81	203	130	39%
1979-80	199	103	24%
1978-79	206	79	28%
1977-78	217	70	24%
1976-77	213	76	21%

Source: Santa Fe Community College Institutional Self-Study Report (1982)

As the results of the Self-Study indicated the proportion of part-time to full-time faculty members has increased significantly. Although there are only 10 fewer full-time faculty members in 1980-81 than in 1976-77, there are 54 more part-time faculty members, or, an increase of 71%. These figures do not account for the number of overload credit hours taught by full-time either but nevertheless indicate a rising degree of dependence upon part-time faculty.

Institutional Perceptions

The field study site visit to Santa Fe Community College, conducted in August of 1984, included interviews with 11 administrators and faculty at the Santa Fe Community College campus in Gainesville, Florida. All of the interviewees concurred with the researchers' description of changes in revenues at the institution (i.e., a decrease in the proportion of the general operating budgets from state appropriations and an increase in the proportion of the budget comprised of fees, grants, gifts, and contracts). In addition, nearly all of the interviewees were concerned with the impact the state cuts imposed in 1981 and 1982 and also expressed concern for the continued decrease in enrollments.

The most frequently mentioned problem identified by the interviewees as being associated with changes in revenues was the propensity of the state legislature to impose mandates on community colleges without accompanying the mandates with sufficient--or in many instances any--additional funding. Nine of the 11 respondents indicated this as a major problem. Nearly half of the respondents also mentioned increased program and budget scrutiny and the closing of the traditional community college open door as major problems. The closing of the open door was

attributed to increased testing, standards, and requirements imposed by both the state and the institution.

The most frequently mentioned strategies implemented to adjust to changes in revenues at the institution are shown in Table 4-11. Of the strategies mentioned, the consensus of the interviewees was that the hiring freeze and the reassignment of faculty and staff were the most effective strategies and increased the overall efficiency of the institution. The least effective strategy mentioned was the deferral of maintenance and equipment purchases. Comments included: "We've lost ground with technological advances" and "In the long run, catching up on deferred maintenance costs more."

The interviewees identified several criteria they perceived as guiding the institutional strategies implemented. The most frequently mentioned response was that "protecting people" (i.e., the faculty and staff of the institution), was the basic premise behind the decisions that were made. One interviewee described the criterion as "protecting people by making the least painful and most humane decisions." The next most frequently mentioned criterion guiding the strategies developed, in descendent order, were to protect and maintain the instructional program, to meet legislative mandates, to maintain quality, and to maintain service to students.

There was a significant level of consensus in regards to the degree of the involvement of the faculty and staff in the development of the strategies. The majority of respondents stated that the process was a top down process, while several other respondents identified the chief executive officer as the major decision-maker and the degree of involvement of faculty and staff as minor. Two of the respondents stated

Table 4-11

The Most Frequently Implemented Strategies to Adjust to Changes in Revenues at Santa Fe Community College

Strategy	Number of Respondents
Hiring Freeze/Unfilled Positions	11
Recruit new populations	11
Reassign faculty/staff	9
Across-the-board cuts	7
Increase fundraising/development efforts	7
Increase recruitment	6
Defer maintenance and major equipment purchases	6
Encourage early retirement	4
Improve retention	4
Increase linkages with business and industry	3
Implement user fees	3
Reduce travel expenditures	3
Increase self-supporting activities	3
Lower student/faculty ratio	3

n=11

that they felt there was a considerable amount of involvement and that people basically understood the rationale behind the decisions that were made. A dean at the institution described the decisions as "people-based, combining both the human element and efficiency."

The strengths identified as extremely positive factors in regard to adjusting to changes in revenues were stated by the majority of respondents as the institution's flexibility in responding to and meeting needs and also the institutional personnel. Other frequently mentioned strengths were the management and leadership of the institution, the President, the environment, the institutional orientation toward students, and the openness to pursue new things at the institution.

The most frequently mentioned factors perceived as restrictive were legislative mandates and controls, the economy, the lack of local funds, and the lack of legislative planning. The majority of the interviewees reflected the comment voiced by one administrator: "The constant change in the legislative attitudes and activity make it almost impossible to plan anymore."

Overall, the personnel interviewed were very positive in their assessment of the ability of the institution to adjust to changes in revenues. There was clear consensus that Santa Fe Community College had dealt with the changes very well, improved and strengthened the academic program, and in spite of the circumstances, maintained the mission of the institution. The negative comments reflected a feeling that morale and creativity at the institution have suffered in the process. One individual summarized the outcome as "The right decisions have been made . . . although without the process of involving people

in making the decisions that affect them as well as affect the course of the institution."

Miami-Dade Community College

Institutional Profile

Miami-Dade Community College is a large, public-supported multi-campus community college which serves the populous Metropolitan Dade County community. The service area population for the college is 1,764,400. Miami, the largest city in the state of Florida, makes up the bulk of the college's service district. Known largely for its tourist industry, the Miami area has also emerged as a national and international center for business, banking, and culture.

Dade County Junior College, as it was called when it began instruction in 1960, was changed by Board action in 1963 to Miami-Dade Junior College and finally to Miami-Dade Community College in July, 1973. Miami-Dade Community College has grown from a single campus which opened in temporary quarters with 1,400 students to a multi-campus college which enrolls over 60,000 students (total unduplicated head-count) at four major campuses and numerous centers throughout the college's service area. In addition, Miami-Dade Community College offers college level courses through the Open College, a multi-media system of television, radio, audio-visual cassette tapes, and independent study.

Miami-Dade Community College is a comprehensive community college with goals that advance the open door admissions philosophy. Three-fifths of the students are enrolled in Associate of Arts transfer programs and one-fifth are enrolled in occupational and special interest

program courses. The diversity of the college's student population is reflected in the fact that Miami-Dade has the largest number of foreign student-visa enrollees of any postsecondary institution in the United States; the majority of students enrolled are Hispanic and less than half of all Miami-Dade students report English as their native language. Partially in response to the challenges presented by this diverse student body, the college initiated a series of systematic and comprehensive reforms and innovations involving the entire educational program since the mid-1970s. Miami-Dade Community College has received national recognition for leadership in postsecondary educational reforms, particularly for its General Education model, Standards of Academic Progess monitoring system, and the Advisement and Graduation Information System (AGIS).

Miami-Dade Community College employs over 2300 personnel, including approximately 1100 faculty and approximately 1290 administrative and support staff. The faculty of the institution are not unionized although there have been several union votes at the institution. The Faculty Senate, composed of full-time faculty and staff, is the internal governing body for the institution. The President's Council of the college is composed of the president, the chief executive officers of the college's district administration, the vice presidents of the college's four campuses, the president of the Faculty Senate, and the chief representatives of the college's Community Relations, Business Affairs and Institutional Development components. The current president has served as president of Miami-Dade since 1980, preceded by Peter Masiko, the founding president of the institution. The institutional budget for the 1983-84 year was set at over $80 million dollars.

The Miami-Dade Community College District Board of Trustees is comprised of five members, each of whom is appointed by the governor and confirmed by the Florida state senate for a four year term. The district governing board, vested with the governing authority for the college, works directly with the college president in all matters pertaining to the governance and operation of the college.

Miami-Dade is accredited by the Southern Association of Colleges and Schools; the most recent self-study was of a non-traditional nature conducted in 1983. Included in the non-traditional self-study was a college mission reform component which was to be completed in 1984. Miami-Dade has been a member of the League for Innovation in the Community College since 1980. In 1983, the Miami-Dade Community College Foundation, Inc. (established in 1965) was the recipient of the third largest gift given to college or university and largest given to any two-year institution in the United States. The gift, approximately $50 million dollars, was from the estate of the late Colonel Mitchell Wolfson, Sr., the first chairman of the Miami-Dade Community College District Board of Trustees.

Funding

Miami-Dade Community College receives the majority of their operating revenues from the state through the Florida College Program Appropriation (described in detail in the Funding section of the Santa Fe Community College field study). To the extent that the state treasury in Florida provides the bulk of the operating budget of each community college in the state, some financial restrictions are similar among the community colleges in the state. For instance, the state sets the upper tuition level limit for the community colleges as well

as sets enrollment projection levels. Colleges are penalized if they do not fall within their specified corridors for enrollment by having to pay back state aid.

In comparison to other community colleges in the state, Miami-Dade's salary schedules are the highest. Part of the reason may be due to the high cost of living in Dade County as compared to the rest of the state. Due to the fact that a large number of Miami-Dade's enrollees are in developmental courses, a state-mandated redefinition of the credit hour base for developmental instruction which underestimated the workload created an inequity for Miami-Dade (Richter, 1984); the change resulted in a loss of nearly 50% of the institutions' FTE generation and subsequent funding.

Chronology of Changes in Revenues and Enrollments

Changes in revenues and enrollments paralled each other at Miami-Dade Community College: Enrollments began to decline in the 1980s concurrently with a decline in the proportion of the operating budget derived from the state, as illustrated in tables 4-12 and 4-13. The proportion of the budget coming from tuition and fees remained fairly constant, while the gifts, grants and contracts category increased from 10.5% in 1980-81 to 15.2% in 1982-83. During this period, state mandated cuts of 1.2% in 1980-81 and 4.7% in 1981-82 were executed after the budget had been set.

Miami-Dade's enrollments began to decline in the 1980s, and appear to exhibit a trend in the downward direction. The enrollment decline came as no surprise, but rather was projected by institutional officials after the burgeoning enrollment growth experienced in the 1970s.

Table 4-12

Changes in Sources of Revenue
Miami-Dade Community College

Revenue Source	Percent of Total Revenues 1980-81	1981-82	1982-83
Tuition and fees	25.9%	26.4%	25.7%
State Appropriation	59.3	60.1	56.9
Grants, Gifts, and Contracts	10.5	10.2	15.2
Other	4.3	3.4	2.2

Source: NACUBO Comparative Financial Statistics for Public Community and Junior Colleges (1982; 1983; 1984)

Table 4-13

Changes in Enrollment
Miami-Dade Community College

	1980-81	1981-82	1982-83
Full-Time	17,622	17,137	16,228
Part-Time	8,720	8,382	8,666
Non-Credit	3,041	3,291	764
Total	29,383	28,810	25,658

Source: NACUBO Comparative Financial Statistics for Public Community and Junior Colleges (1982; 1983; 1984)

Institutional Perceptions

Interviews were conducted with 11 institutional personnel during July, 1984. The interviews took place at the Mitchell Wolfsen New World Center Campus, South Campus, and the Miami-Dade Administrative Center at South Campus.

The majority of interviewees concurred that Miami-Dade Community College had experienced a decline in the proportion of the overall operating budget derived from state funding. Due to the enrollment-driven component of the state funding formula, Miami-Dade's enrollment decline had contributed to the change in state funding level to the institution. In addition, the majority of interviewees mentioned that the institution had taken a more aggressive posture toward federal funds and grants and that this effort had resulted in increased funding to Miami-Dade Community College from external sources. Two other changes frequently mentioned were the loss of state funds for capital outlay and maintenance and the across-the-board cuts in state appropriations in the 1982-83 and 1983-84 fiscal years.

A decline in morale was cited most frequently as the major problem resulting from the changes in revenue. Additional problems mentioned with equal frequency by the interviewees were the institutional decline in enrollment, state funding, the economy, faculty salaries, and the image the institution has in the community.

Table 4-14 is a summary of the strategies cited by interviewees. The most frequently mentioned strategy was instituting a hiring freeze (i.e., not filling positions when they become open). Across-the-board cuts and the reassignment of faculty and staff were the second most frequently mentioned response. The across-the-board cuts were perceived

Table 4-14

The Most Frequently Implemented Strategies to Adjust to Changes in Revenues at Miami-Dade Community College

Strategy	Number of Respondents
Hiring freeze/Unfilled positions	7
Reassign faculty/staff	6
Across-the-board cuts	6
Increase fundraising/development efforts	5
Increase recruitment	4
Increase productivity	4
Reduce travel expenditures	4
Reduce supply expenditures	4
Defer maintenance and equipment purchases	4
Retrain faculty and staff	3
Increase part-time staff use (custodial)	3
Improve retention	3

n=11

as fair for the most part, especially by the management of the campuses who retained the decision-making power as to how the cut would be implemented at their campus. Miami-Dade's fundraising and development efforts were perceived as having become more aggressive and consequently more successful. The increase in obtaining federal grants and the awarding of the Wolfsen grant were mentioned by most of the interviewees. The long-term ineffectiveness of deferring maintenance and equipment purchases was viewed by most as a negative effect which outweighed the short-term advantages of decreasing expenditures. A recent change in the custodial staffing structure was frequently mentioned as an effective strategy which demonstrated substantial savings to the institution.

The two most frequently cited criteria guiding the institutional adjustments were to save the instructional program and to avoid laying off employees. The degree of involvement by faculty and staff in the decision-making process was described equally from three different perspectives: "okay"--advisory in nature within units and departments; "participative"--the management of each campus participated; and, "very little"--little or no input or involvement from faculty and staff.

Nearly half of the interviewees perceived the leadership and the personnel of the institution as the main strengths in regard to the institution's ability to cope with changing revenues. Several interviewees also cited the President's vision and futurism and the conservative pre-planning in the budget area as major strengths. Although the leadership style of the president was cited as a strength, his attention to detail was sometimes cited concurrently as a weakness.

The factors viewed as restrictive or beyond the control of the institution which influenced the course of events were primarily the

lack of planning on the part of the state legislature (i.e., changes in funding formulas and categoricals and the misunderstanding by the state legislature of the mission of the community college). Public attitudes, the testing thrust by the state, and the inability of the community colleges in the state to influence the legislature were also mentioned. The majority of restrictions mentioned related to the state legislature in some manner. One interviewee summarized the situation as "It is a continuing struggle--it is difficult to meet goals with the state funding and mandates--the funding comes with more string attached."

Overall, the majority of interviewees felt that Miami-Dade has been very effective in terms of maintaining its mission while responding to revenue changes. One administrator summarized: "Crisis prompts priorities to fulfill the mission of the community college." Although several interviewees mentioned that morale was low and the image of the community college in the community and in the state legislature was low, many stated that they felt the overall quality of the institution had improved over the past five years. As one interviewee summarized: "Miami-Dade is getting better."

Delta College

Institutional Profile

Delta College, founded in 1961, is a single-campus, comprehensive community with an open door philosophy of service and commitment to its community. The mission statement of the college was reformulated in 1976 to include the following (Delta College, 1984):

> The college is dedicated to meeting the educational needs of its constitutents who desire the opportunity to participate in the college program and to an open relationship with business, industry, and the professions as well as other institutions or groups where cooperative

> efforts may be mutually beneficial. Delta College is committed to continue and expand its involvement in the social, cultural, and economic development of the community. (p. 13)

The college serves a three county district in Michigan with a combined service population of over 425,000. Delta's immediate service area is comprised of three major cities with a heavy industrial emphasis, including the Dow Chemical Company and General Motors. In addition, the three county area is well known for its agricultural production.

Delta College is the 14th largest college in the state of Michigan and the 6th largest community college of the 29 located in the state. Delta has grown from an institution of 1,800 students in 1961 to an institution of over 10,000 full-time equivalent students with an annual budget of over $23 million dollars for 1984-85. Over half of Delta's academic credit students are enrolled in occupational programs; many students transfer to four-year institutions or are enrolled in courses for personal enrichment reasons. The college extends its programs and services to over 30 off-campus centers and offers a variety of telecourses over WUCM-TV, Channel 19 the college-owned and operated public broadcasting station. In addition, Delta has established several special partnerships with business and industry within its service area.

The college is governed by a locally-elected nine-member district Board of Trustees. The incumbent president of the college has served as president for 20 years (i.e., since 1964). Of the top executive officers composing the presidents' immediate executive cabinet, nearly all have served at the institution for over 10 years. Delta employs 218 full-time faculty, 146 adminstrative and professional support staff, and 151 classified (secretarial) and maintenance. Delta is one of two

institutions of higher education in the state of Michigan that does not have collective bargaining.

The Faculty Senate, composed of faculty and administrators, is the major policy recommending body of the college. The Senate provides a forum and framework for the development of policy that ultimately goes to the Board of Trustees for action. Except for the Senate Handbook, there is no formal policy or procedural handbook for the codification of procedures at Delta.

Delta has received continuous accredition from the North Central Association of College and Secondary Schools; most recent accreditation was granted in 1984 for an extended 10 year period. Delta is a charter member of the League for Innovation in the Community College. Delta has received national recognition for innovations in the development of training partnerships with business and industry and also for staff development programs. In 1983 the college was awarded "Excellence in Professional Development Programs and Delivery Systems in the Single Campus Category" from the National Council for Staff, Program and Organizational Development.

Funding

Revenue for the operating budgets of community colleges in the state of Michigan is derived from three main sources: tuition and fees, district millage, and state aid. Tuition and fees are determined locally by the community colleges and assessed based on the residency status of students. The district millage limit is set by district voter approval and remain in effect until altered by voters. Delta has levied the maximum millage of 1.60 mills for operations since the 1979-80 fiscal year. The annual increase in the district State Equalized

Valuation (SEV) for Delta's district has consistently been approximately two and one half percent above the state average. Percent increases in the SEV have ranged from 12.0% in 1979, 10.9% in 1980, and 6.6% in 1983. Due to the continuation of depressed economic conditions in the State of Michigan, preliminary projections indicate that for 1984 it appears that there will be no growth in Delta's SEV base.

State aid to community colleges in Michigan for operations is primarily enrollment driven, based on the number of Fiscal Year Equated Students (FYES). The prior year's actual FYES is used as the funding base. Starting in the fiscal year 1979-80 executive cuts were implemented in the state aid appropriations to the community colleges. During this period, the state abandoned the practice of funding the succeeding budget year by using the past year's FYES base. Instead, an across-the-board percentage increase of the current net state aid appropriation determined the next year's gross appropriation. The percentages of the state's executive cuts were 1.5% in 1979-80, 3.0% in 1980-81, and 8.8% in 1981-82.

Chronology of Changes in Revenues and Enrollments

Due to the extensive state cuts in appropriations to community colleges in the state of Michigan, Delta has experienced significant changes in the proportions of sources of revenues. Table 4-15 documents the changes in revenue sources at Delta from 1980 through 1983.

Enrollments at Delta have grown slowly but steadily from 1980 through 1983. Table 4-16 reflects a trend towards increasing numbers of part-time students accompanied by concurrent decreasing numbers of full-time students. For the first time, full-time academic headcount is projected to decline during the 1984-85 year.

Table 4-15

Changes in Sources of Revenues
Delta College

Revenue Source	Percent of Total Revenues 1980-81	1981-82	1982-83
Tuition and fees	25.8%	27.2%	26.3%
State Appropriations	27.5	24.9	22.9
Local Appropriations	36.0	35.6	33.8
Grants, Gifts, and Contracts	8.7	10.0	13.7
Other	2.1	2.2	3.0

Source: NACUBO Comparative Financial Statistics for Public Community and Junior Colleges (1982; 1983; 1984)

Table 4-16

Academic Fall/Winter Headcount 1980-83
Delta College

	1980-81		1981-82		1982-83	
	Fall	Winter	Fall	Winter	Fall	Winter
Full-Time	3948	3831	3954	3627	3816	3623
Part-Time	5505	5147	5590	5471	6082	6072
Total	9453	8978	9544	9098	9898	9707

Source: Institutional Profile: Self-Study (Delta College, 1983)

Faced with projections of no growth in the local SEV base as well as a projected decline in student enrollment, the college has pursued several measures to counteract the changes. Delta was instrumental in conducting a state-wide economic impact study involving all 29 community colleges in the state of Michigan. The results of the study have been used extensively on the local as well as state-wide levels to demonstrate the role community colleges play in economic development. The college established an Advisory Council for Evaluation by board action in 1983 with the charge of evaluating all cost centers of the college on a five year cycle. The Council will make its first recommendations in the fall of 1984. The most significant measure the college has implemented is a district-wide millage proposal vote to ask voters for approval of two-tenth of one mill for a five year period. The additional revenues would be used for the purchase of new instructional equipment to keep up with the job training requests of business and industry and also for maintenance which has been deferred over the past years.

Institutional Perceptions

Eleven institutional personnel were interviewed during the field study visit to Delta College conducted in June, 1984. There was a clear consensus among the interviewees that the nature of changes in revenues was that the proportion of revenues from state and local sources had decreased and that tuition was making up the most of the difference in the general operating budget. Other frequently mentioned changes were the anticipated decrease in the SEV state equalized valuation as the result of a nearby nuclear plant under construction closing and the cutbacks in state appropriations after the beginning

of the budget year. There was little mention of changes or trends in enrollment patterns; Delta's enrollment increases, although slight, have been consistent over the years.

The main problems resulting from changes in revenues identified by the interviewees were as follows: declines in state support and district millage, a greater burden placed on students due to increased tuition, little new program development, low morale, less innovation, deteriorating physical plant condition due to deferred maintenance, and the negative psychological effects of the state cuts.

Specific strategies institutional personnel mentioned as having been employed by the institution to adjust to changes in revenues are presented in Table 4-17. Most of the respondents identified hiring freeze/unfilled positions as the most effective strategy in terms of reducing expenditures and also as a positive method of increasing efficiency and productivity. The main drawback to this strategy mentioned by most was the damaging effect on morale and employee burnout over a long duration of time. The deferral of maintenance was perceived as a necessary yet highly ineffective strategy, by the majority of respondents. Also, across-the-board cuts were perceived as unfair by several respondents. Although across-the-board cuts appear to be equitable, several respondents felt that this type of cut was a reactive response which does not reward individual efforts.

Nearly half of the interviewees indicated that they did not feel that there had been any criteria or priorities guiding the reallocation strategies. Of the remaining respondents, three felt that the priority was to protect the instructional program and another felt that the priority was to protect the institutional personnel. Overall, the

Table 4-17

The Most Frequently Implemented Strategies to Adjust to Changes in Revenues at Delta College

Strategy	Number of Respondents
Defer maintenance and equipment purchases	7
Limit new program development	7
Raise tuition	6
Hiring freeze/Unfilled positions	5
Across-the-board cuts	4
Reassign faculty/staff	4
Limit non-FTE producing programs and services	3
Increase part-time faculty use	3
Program review	3

n=11

majority of interviewees felt that the involvement of faculty and staff in the development of strategies was good and that personnel were well informed. One respondent stated: "At Delta everyone has an opportunity to be involved and present ideas--from the mailroom to the President."

Two areas were identified by the majority of respondents as strengths of the institution: Eight interviewees cited the quality of the faculty and staff and six cited the attitude of the President (i.e., as humane and positive). Other strengths mentioned by interviewees were the college's good tax base, the reputation of the institution, the environment, constitutency support, and the flexibility of the institution. The main restrictions cited were related to the economy and state funding. In descendant order, the restrictions identified were the state and local economy, state funding, the long-term nature of the state cuts, and taxpayer resistance and attitudes. Also mentioned was the lack of immediate alternative delivery systems to meet needs outside the traditional schedule and classroom (i.e., variable length training programs needed by business and industry).

The majority of the interviewees felt that overall Delta had not changed much despite the budget cuts. Interviewees stated that no essential functions or services had to be cut; rather, the institutional personnel picked up ad hoc responsibilities in order to maintain service levels. One effect of the budget cuts cited by several interviewees was that efficiency had raised significantly (i.e., some functions have been consolidated and responsibilities from unfilled positions have been incorporated into remaining positions). One interviewee stated that this practice has affected the sanity and morale of employees.

One individual commenting on the process stated: "Hard decisions have not been made--rather, results have been by attrition."

Although most of the interviewees felt that Delta had coped well and maintained its mission and major functions several noted that the impact on faculty and staff over has "taken its toll . . . you can only ask people to do so much for so long without burnout." Also, several interviewees felt that there was less room for innovation and experimentation at the institution than there had been in the past. New programs now need to operate on self-sustaining basis and may be limiting the likelihood of innovation. One administrator stated: "People are overly cautious--they almost need a guarantee of success before they'll take risks."

Overall Interview and Field Study Results

This section presents a consolidation of the 33 personal interviews conducted at the three community colleges included in this study. The presentation of the consolidated data is structured around the following questions, which incorporate the primary research questions. The questions are as follows:

1. Based on the changes in sources of revenues that have occurred at the selected community colleges, what related changes or problems have occurred?
2. What are the institutional adaptations to the changes at the selected community colleges?
3. What criteria were used to guide institutional decisions and how involved were faculty and staff in the decision-making process?
4. What are some of the strengths and weaknesses of the institution that have influenced the course of events?

5. Overall, how effectively have the institutions responded in terms of maintaining institutional mission, and how has the overall effectiveness of the institution been perceived by institutional personnel?

Problems Related to Revenue Changes at the Institutions

A consolidation of the 33 interviewee responses revealed that the majority of personnel interviewed at all three institutions felt that state funding was a problem because it was declining most significantly as a proportion of total revenues. Santa Fe Community College and Miami-Dade Community College concurred that a related problem was the state mandates legislated without additional funding. The other most frequently mentioned problem related to changes in revenues at all three institutions was the damaging effect on morale and innovation. Tuition increases, the closing of the traditionally community college open door and physical plant deterioration were also frequently mentioned changes.

Institutional Adaptation to the Changes at the Institutions

As can be seen in Table 4-18, the five most frequently implemented strategies, in descendant order, were hiring/freeze unfilled positions (23), reassignment of faculty and staff (19), deferral of maintenance (17), increased recruitment efforts (16), and reduced purchase of supplies and equipment (14). The next group of most frequently mentioned strategies, each with 13 respondents, were as follows: across-the-board cuts and increased fundraising/development efforts. Of the most frequently utilized strategies, it is interesting to note that three involve a reduction in expenditures and three involve changes in personnel and student recruitment.

Table 4-18

Overall Summary Matrix
Institutional Adaptations to the Changes at the Institutions

Strategy	Number of Respondents
Hiring Freeze/Unfilled Positions	23
Reassignment of faculty and staff	19
Deferral of maintenance	17
Increased recruitment efforts	16
Reduced purchase of supplies and equipment	14
Across-the-board cuts	13
Increased fundraising/development efforts	13

n=33

Criteria used to Guide Institutional Decisions and Faculty/Staff Involvement

The most frequently mentioned criterion used to guide institutional decisions regarding the reallocation of revenues was either to protect the instructional program or to avoid laying people off. The next most frequently mentioned criteria were to maintain services to students. At one of the institutions, nearly half of the respondents felt that there had not been any criteria used, or, if there had been, they were not aware of any criteria.

Perceptions regarding involvement of faculty and staff in the decision-making process across the three institutions were mixed. Half of the respondents perceived the process as a top-down one (i.e., the chief executive officer decides), and half perceived the process as a participative, informative process.

Strengths and Weakness of the Institutions that Influenced the Course of Events

Nearly two thirds of the respondents at all three institutions cited the quality of the faculty and staff of the institution as a major strength. There was also consensus among the three institutions that the chief executive officer, the management of the institution, and the institutional flexibility in meeting needs were strengths that positively influenced the course of events. Two other strengths that were mentioned by 12 respondents were the environment and the reputation of the institution.

Regarding the weaknesses or restrictions beyond the control of the institution that influenced the course of events, the most frequently mentioned responses were: legislative controls (10), the state and

local economy (9), state funding (7), and, legislative mandates (5). All of the top four restrictions mentioned are related in some way to the state legislature and the economy, which are in and of themselves related. Another weakness cited by several of the interviewees was the lack of understanding of the community college mission and the ineffectiveness of the community colleges within the state legislatures.

Overall Effectiveness of the Institutional Adaptations and Responses as Perceived by Institutional Personnel

Although 22 of the interviewees, or two thirds, indicated that they felt the overall effectiveness of the institution was very good, there was mixed consensus regarding some other perceived outcomes. While 10 interviewees cited that the institution was stronger academically as an overall result of some of the adaptations, nine of the interviewees felt that morale and innovation had suffered to a large extent. Eight interviewees rated the overall institutional effectiveness as "so so" or "okay"; seven felt that the institution had changed very little overall, although some respondents cited examples of raised efficiency as a positive overall outcome.

Discussion of the Results

In this section, the survey results and the field study results are combined with the theoretical propositions and postulates developed from the literature review regarding the institutional strategies and adaptations that are considered effective during periods of changes in sources of revenues at community colleges. From the extensive review of the literature, two postulates and eight propositions were developed

regarding how colleges might react to changes in sources of revenues. The data presented in this chapter were used to either support (confirm) or not support (reject) these propositions. The results of this exercise formed the basis for the guidelines developed and presented in Chapter Five for dealing with changes in sources of revenues at community colleges.

Postulate I

Where there were changes in sources of revenues at community colleges, they were usually a result of changes in state funding or fiscal restraints imposed by the state legislature. The results of the changes, although dollars had actually increased, was that the proportion of dollars from state sources had decreased.

This postulate was confirmed. The majority of the respondents at all three institutions indicated that the problems created at the institution were results of state funding changes, cuts, or legislative mandates without accompanying funding. In each case, the proportion of the institutional general operating budget from state sources had decreased even though actual dollar amounts had increased.

Proposition I-A

Institutions attempted to increase revenues by raising tuition, increasing fundraising and development efforts, and making some activities self-supporting.

This proposition was not confirmed. Although 83% of the chief executive officers surveyed indicated they had raised tuition as a strategy to increase revenues, increases in fundraising efforts and self-supporting activities were not the most frequently implemented strategies by the majority of the respondents. The six strategies most

frequently implemented by 89% or more of the survey respondents were reducing student attrition, cost-analysis studies, faculty/staff development, retirement options, increasing cooperation with business/industry, increasing lobbying efforts, deferring equipment purchases, and involving faculty/staff in the decision-making process. Although all of the institutions selected for field study had raised tuition as one strategy, two of the institutions had tuition limits imposed by the state. The other two strategies, increasing fundraising/development efforts and making some activities self-supporting were cited as having been used by less than half of the interviewees in the field study visits.

Propositon I-B

Institutions attempted to decrease expenditures by implementing across-the-board cuts, deferring maintenance, and increasing the use of part-time faculty.

This proposition was confirmed. All three of the selected community colleges had initiated some type of across-the-board cuts at their institution and indicated they had deferred maintenance as primary strategies to decrease expenditures. An increase in the use of part-time faculty was not demonstrated at the field site institutions, although the survey results indicated that 72% of the respondents had increased the use of part-time faculty. Interestingly, this strategy was rated as 3.85 in effectiveness (i.e., most effective) by the survey respondents. Although across-the-board cuts and deferred maintenance were strategies used by approximately half of the survey respondents, both strategies were rated in the category of least effective by the respondents.

Proposition I-C

Institutions attempted to become more efficient by raising student-faculty ratios and instituting hiring freezes/nonreplacement of faculty and staff.

This proposition was confirmed. Sixty-one percent of the survey respondents had instituted a hiring freeze as well as raised student/faculty teaching ratios. The effectiveness ratings for both of these strategies were above 3.70, or in the category of most effective. All three institutions involved in the field studies had used a hiring freeze/unfilled positions as a means of cutting personnel expenditures through attrition. The three institutions had not deliberately raised student/faculty ratios as a cost-cutting strategy, but rather had achieved what was considered an acceptable productivity level set at their institution in regard to the faculty/student ratio.

Proposition I-D

Institutions protected the instructional program area by making little or no changes in it; when changes were made, they were made according to plan, such as using program review, priorities, planning data, and incorporating the changes into the long-range goals and plans of the institution.

This proposition was confirmed. Although the results of the survey did not relate to this postulate directly, the field study data strongly confirmed the assumption that the primary priority guiding the decisions regarding revenue changes was to protect the instructional program. When changes in the instructional programs were considered, there was a planning process in place (i.e., such as program review) to accommodate the changes.

Postulate II

The effectiveness of the strategies implemented as a result of changes in revenues are a function of the characteristics of the community college and its environment.

This postulate was confirmed. As the results of the field studies indicated certain strategies that are perceived to be effective at one institution may not necessarily be effective at another institution. Rather, each institution selected strategies most appropriate for their specific situation.

Proposition II-A

Assertive leadership of the chief executive officer was critical to instilling a clear and strong sense of institutional mission during periods of changes in sources of revenues.

This proposition was confirmed. The responses from the field study interviews clearly identified that strong leadership by the chief executive officer is one of the most critical variables influencing the course of events at the institution. In addition, the high response rate (i.e., 100%) to the survey by the League chief executive officers may be an indication that the top leadership is in fact extremely concerned and committed to providing a sense of vision, mission, and leadership during critical times for community colleges.

Proposition II-B

Close attention to constituencies and to the process of faculty and staff involvement in the priority-setting and decision-making processes was crucial to the acceptance of the plans as well as to the maintenance of the morale and innovation within the institution.

This proposition was confirmed. The survey results indicated that the most frequenty used strategies (i.e., used by 72% or more of the respondents) involved the use of faculty and staff in the decision-making process, increasing communication with the college constituencies, and increasing public relations efforts. The in-depth field interviews confirmed the assumption that involvement of faculty, staff, and college constituencies in the communication and decision-making process was crucial to the acceptance of the decisions. The quality of communication was also cited as an important factor in sustaining morale and innovation within the institution. The respondents agreed that the presence of a viable process guiding the decision-making and priority-setting within the institution greatly improved not only the acceptance of the outcome but also the willingness of faculty and staff to become involved.

Proposition II-C

The skills and mindset to deal with changes in revenues were often lacking due to prior periods of growth; therefore, institutions tended to respond conservatively, avoiding program risk-taking or hard personnel decisions.

This proposition was confirmed. As demonstrated in the literature review and the results sections, community colleges have experienced prior periods of growth and until the 1980s have not had to deal with downturns in enrollments and revenues. The field institution visitations revealed a hesitation on the part of the management to drastically cut programs or personnel. Rather, decisions were made by personnel attrition and program review processes. Also, of the most frequently implemented strategies by the survey respondents, only four of the top strategies used by 72% or more of the respondents involved staffing

changes. The strategies involving staffing changes were initiating retirement options, sharing or reassigning staff among campuses, increasing the use of part-time faculty, and reducing non-instructional staff.

Proposition II-D

Strategies were often limited in scope and application due to the lack of control of external variables present in the environment, that is, state-set tuition levels, state and local economy, and legislative policy.

This proposition was confirmed. At each of the three field study institutions, the state and local economy played a major role in the flexibility of the college to make adjustments. Funding and legislative policy followed the impact of the economy at the institutions; little or no control was evident over the state policy decisions toward community college funding. Local millage levels and state-set tuition levels were additional variables the institutions felt they had little or no control over.

The results presented in this chapter were analyzed and used to either support (confirm) or not support (reject) the theoretical propositions developed from the literature review. The high number of confirmed propositions may be an indication that the studies on how institutions of higher education are adjusting to changes in sources of revenue accurately reflect the practices in the field as well as the perceptions of selected chief executive officers of community colleges. Interestingly, the survey responses further supported the actual practices in the field as discovered through the field studies. The confirmation of the survey data with the field study data strengthens both the internal

and external validity of the study; as a result the guidelines developed from the data has greater generalizability to colleges similar in scope, size, and purpose.

Chapter V will present the summary, conclusions, implications, guidelines, and recommendations for further research. The guidelines presented in Chapter V are a culmination of the results, literature review, conclusions, and implications of the study.

CHAPTER V
SUMMARY, CONCLUSIONS, IMPLICATIONS, GUIDELINES, AND RECOMMENDATIONS FOR FURTHER STUDY

This chapter presents a brief overview of the study, including summary statements of the need for the study, the research problem, and the research design. The answers to the research questions and the findings of the study are presented as a list of conclusions. Implications of the research, guidelines developed from the results of the study, and recommendations for further research are also presented.

Summary

Need for the Study

Reports of the deteriorating financial condition of colleges and universities were widespread in the late 1970s. Due to rapid enrollment growth, low tuition, the open door policy, and geographic accessibility, community colleges were perceived to be exempt from the financial crisis. The expansionist 1960s had created a growth mentality that bigger was better and that resources were virtually unlimited. The changes occurring in the late 1970s and 1980s, such as inflation, enrollment declines, and limited resources challenged the mindset of community college administrators.

Community colleges began to experience the effects of revenue and enrollment changes despite prior experience of escalating growth; community college enrollments declined significantly for the first time nationwide in 1983 (Watkins, 1984a). Accompanying the enrollment

decline was a widespread decrease in state and local funds to education which produced a strain on other sources of revenues. Although in most instances the amount of dollars from state sources to community colleges had increased, the proportion of the operating budget from state sources had declined. The changes in sources of revenue to community colleges forced institutions to scrutinize more closely mission along with finances.

Although the dramatic changes in sources of revenue have not produced an accompanying blueprint as how to deal most effectively with the problems associated with the revenue changes, this gap should not be misinterpreted as a lack of demand for such information. Various strategies to counteract the problems associated with revenue changes have been implemented by numerous community colleges; yet there has been little documentation regarding the outcomes of these strategies. This study attempted to fill in that gap by identifying institutional adaptations and strategies employed by community colleges as well as provide guidelines based on the research and data for minimizing the problems associated with changes in sources of revenues at community colleges. This investigation examined in-depth how some community colleges adapted to changes of sources of revenues, how some community college presidents perceived the effectiveness of specific strategies, and determined whether the theoretical propositions developed from the literature review were confirmed or not when compared to the actual practices identified in the field.

The Research Problem

The problem investigated in this study was to determine which strategies and adaptations have been utilized at selected community

colleges in order to minimize the problems attributed to changes imposed by the external environment (i.e., changes in sources of revenues).

The Method of the Study

The study involved eight major procedures:

1. The review of the literature which included the identification of the most frequently implemented strategies for minimizing the problems related to changes in revenues and the development of theoretical propositions based on the review.

2. A review of the changes in sources of revenues at League community colleges involved in the NACUBO study of comparative financial statistics from 1979 through 1983.

3. The development of a survey instrument used to assess the perceptions related to the effectiveness of specific strategies a community college might implement when experiencing a decline in sources of revenues. The survey items were formulated from the review of the literature and from preliminary investigations at League community colleges.

4. The administration of the survey to the chief executive officers of the 18 of the community colleges in the League.

5. The designing of an interview guide used during field study interviews. The questions were formulated from the review of the literature and form the preliminary survey results.

6. The selection of three League community colleges for the in-depth field studies. Criteria for the selection of the colleges included: the degree and nature of changes in souces of revenues from 1979 through 1983, the size of the college, the size of the service area,

the comprehensiveness of mission, the geographic location, and the willingness of the college to participate.

7. The conducting of the field studies and the interviewing of 33 institutional personnel (11 at each institution) familiar with the institution's adaptations to changes in sources of revenues.

8. The presentation, analysis, and summary of data, along with the formulation of conclusions, implications, guidelines, and recommendations for further study.

The data obtained for the study took two forms: One was quantitative in nature and the other was qualitative. Statistical data on the extent and nature of changes in sources of revenues at community colleges were analyzed in order to provide an understanding of the specific changes and to identify the institutions for further field study. The data obtained from the survey were analyzed, which reflected the perceptions of the chief executive officers of the League institutions regarding the effectiveness of specific strategies. The qualitative data obtained from the field studies and interviews were used to confirm the financial and survey data to a greater extent. The end result, which may have been speculative if based only on one source of data or methodology, was a broad contextual understanding of the relationship between changes in sources of revenues and institutional adaptations and perceptions. Further, the cross verifications of the measures facilitated the possibility of the serendipituous discovery of other significant variables related to the problem of the study.

Conclusions

The problem of this investigation was to identify the nature of changes in sources of revenues at community colleges and to examine the strategies utilized by selected community colleges to counteract the problems associated with the revenue changes. A related objective of the study was to identify the strategies perceived as most effective by institutional personnel.

This study did confirm a common assumption regarding the nature of changes in sources of revenues at community colleges: The trend is for a lesser proportion of total revenues coming from state funding sources and a greater proportion of revenues made up of tuition and fees. Although the nature of changes in revenue sources at community colleges is similar, this study did not confirm that the approaches community colleges are utilizing to counteract the problems attributed to the changes are uniform in substance or uniform in effectiveness. The strategies selected and subsequent degrees of effectiveness appear to be influenced by several factors. Among the factors are prior experience with rapid growth, the economy, the type of funding, the leadership and management style of the chief executive officer, the amount of contingency planning and revenue reserves, the amount of constituency support and personnel involvement in decision-making, the diversification of revenue sources, and the degree and duration of the changes in the sources revenues.

Further conclusions are as follows:

1. When community colleges experience changes in sources of revenues, which usually are in the form of a decreased proportion of the budget comprised from state sources, the most frequently implemented strategies

or adaptations used to counteract the problems created by the changes in revenues are deferring maintenance and equipment purchases, instituting a hiring freeze, reassigning faculty and staff, increasing recruitment efforts, implementing across-the-board cuts, and increasing the use of part-time faculty. In addition, the most frequently implemented strategies are directed toward decreasing current expenditures, rather than oriented on ways to increase revenues to the institution. The most frequently implemented strategies are also considered short term in effectiveness; deferred maintenance and across-the-board cuts can have debilitating effects on an institution in the long run. Interestingly, some of the strategies perceived as most effective (i.e., initiating retirement options, making some activities self-supporting, and increasing fundraising and development) are not utilized to the extent that they could be.

2. The morale of faculty and staff is lower than before the revenue changes; some personnel expressed that they felt that they had been overextended in regard to the amount of additional ad hoc responsibilities they had assumed. Similarly, revenue changes have a damaging effect on innovation at the institutions; new program development is not evident at some institutions and many personnel are less willing to take risks than they had been in the past. Some other final problems identified as a result of the revenue changes threaten the traditional open door philosophy of the community college; for example, increased tuition rates, enrollment limits, state-imposed mandates, and the elimination of some program areas limit accessibility for some students.

3. Very few changes are evident in the instructional program areas of the institutions; the highest priority identified is preserving, maintaining, or improving the instructional area of the college. The other area where few substantial changes are made is in the personnel area; rather, faculty and staff are reduced through attrition as a result of hiring freezes rather than by releasing personnel or making changes in contractual agreements.

4. Although the majority of strategies implemented by the community colleges are defended on the basis of expediency, ease of implementation, lower stress on personnel, and the desire to preserve of the instructional program, very few of the strategies are backed up by data, research, or are part of an on-going planning process in place at the institution.

5. Strategies that are perceived effective at one institution are not necessarily perceived as effective at other institutions. Several factors appear to influence the perceived effectiveness of the strategy, such as the institutional climate, characteristics unique to the institution, the leadership of the chief executive officer, and the reputation of the institution.

6. The leadership style and characteristics of the chief executive officer of the institution contribute greatly to the manner in which the institution adjusts to changes in resources. Also, the degree of confidence the institutional personnel express in the chief executive officer relates to the degree of comfort personnel feel regarding the decisions and adjustments being implemented.

7. Effective and on-going communication with the faculty, staff, and constituencies of the institution is crucial to the understanding

and acceptance of the decisions and adjustments. Significant faculty and staff involvement in the decision-making process appears to be one of the major variables affecting the level of acceptance and cooperation regarding the adjustments.

8. External variables in the environment greatly shape the nature of and type of responses available to some community colleges. For instance, there is limited flexibility in raising revenues from other sources when tuition levels are set by the state. Furthermore, the health of the economy greatly influences the nature of and level of funding for education from state revenues.

The findings of the descriptive data analysis indicate that community colleges have adjusted to adverse revenue changes in ways that are perceived to be fairly effective by institutional personnel and chief executive officers. The results suggest that the revenue changes are sometimes related to local or state economy fluctuations which are in turn reflected in funding levels. The overall findings further suggest that the appropriateness or perceived effectiveness of specific strategies are heavily influenced by characteristics of the community college and related environmental factors.

For example, morale did not appear to suffer as significantly at the institutions where the personnel felt that they had been involved in the decision-making process as at the institutions where personnel felt that the majority of the decisions had been made by the president. Also, the condition of the local and state economy appears to affect the selection and subsequent effectiveness of specific strategies. The amount of additional financial revenues available from state and local sources are usually closely related to the conditions of the state

and local economies. Therefore, when revenues decreased due to recessions, business shutdowns, or shortfalls in the state treasury, less resources were available to the community colleges.

The findings of this study, which indicate that community colleges are implementing traditional responses to changes in revenue sources, are in agreement with the major related studies on reallocation (Hyatt et al., 1984), revenue changes (Jenkins, 1984; Wattenbarger, 1978), and institutional adaptations (Chaffee, 1982; Purga, 1979). The extent to which the conclusions of this study can or should be generalized to the population is contingent upon the key variables identified in the conclusions of this study and the extent to which they are represented in the population. Further, the conclusions of this study are limited in application due to the varying degrees of control community colleges have over related environmental factors.

Implications

The theoretical basis for this study, (i.e., the view of community colleges as open systems) assumes that community colleges are capable of adaptation based on feedback from the environment in order to maintain survival (Martorana & Kuhns, 1975). This view also assumes that community colleges are in constant interaction with their environment and make continuous adjustments based on feedback from the environment. Furthermore, community colleges, as open sytems, strive to maintain dynamic equilibrium in order to grow and survive. The tendency of community colleges, as open systems, to maintain dynamic equilibrium may be construed as the attempt of the community college not only to survive but also to carry out its institutional mission.

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The understanding of the open systems theory is reinforces the implications in this study regarding adaptations made by community colleges to minimize the problems associated with revenue changes. Feedback, in the form of changes in revenues, leads to the formulation of responses to that specific feedback by the community college in order to maintain its mission. For instance, if revenue changes were producing a situation which may seemingly be best resolved by increasing tuition to students, the mission of the community college may be altered if it increases tuition to a level that prohibits financial accessibility for some students. Therefore, the response the community college may choose to pursue may take a different form, such making across-the-board cuts or deferring maintenance, in order to adapt to the changes in such a way that the character of the system (i.e., the character and mission of the community college) is preserved (Kast & Rosenzweig, 1974).

Another example of the application of systems theory to the study of changes in revenues at community colleges is the concept of equifinality. The results of this study did not confirm the assumption that there is one best way or that there is a group of most effective strategies for dealing with the problems attributed to changes in revenues. Conversely, this study demonstrated the concept of equifinality by illustrating the effectiveness of several different strategies in several different circumstances. Also, the illustration of the concept of equifinality in this study confirmed that a wide range of alternatives for adaptation to changes are available which may not produce the same results when applied in different environments or under varying circumstances. For instance, strategies which were perceived effective at one institution were not necessarily perceived

effective at other institutions. Rather, the effectiveness of the strategies appeared to be influenced by several factors or characteristics unique to each institution.

Another tenet of systems theory is the assumption that feedback from the external environment is necessary for organizational change and growth (Katz, Kahn & Adams, 1980). This study confirmed that assumption through the direct observation of several community colleges experiencing internal changes related to changes occurring in the environment. This type of change can be extremely positive, according to Peters and Waterman (1982). In fact, in their examination of the management style and environment of leading American companies they concluded that "innovative companies are especially adroit at continually responding to change of any sort in their environment" (p.12).

The development of strategies to adjust to revenue changes by community colleges involves considering the total nature of changes in the social, economic and political environments. Adapting to these changes involves more than upholding the philosophical mission of the community college. In order to survive as well as maintain mission, community college administrators will need to respond by demonstrating flexibility, creativity, and innovativeness. The traditional open door philosophy of the community college can be dramatically changed by the type of decisions administrators make as a result of problems created by changes in sources of revenues. When this does happen, decisions and adjustments that are implemented can indirecty shape the mission of the community college. What is needed are community college administrators with not only the skills to make appropriate decisions, but also with the vision and foresight to incorporate decisions into the

planning process which directly supports the community college mission goals. This task will require more than reactive, short-range solutions; this task will require a new breed of educational entreprenuers whom do not allow the past to place restraints on the future. The type of leaders that are needed are those who are futuristic, humanistic risk-takers willing to involve and enpower the institutional personnel in the process. This type of entrepreneuer will encourage a type of innovation in community colleges referred to as "process innovation" by Kantor (1984), that is, innovations involving the management procedures and organizational processes of the institution.

The implications of this research are directed toward the future. O'Banion (1972) tagged the 1960s as the decade of quantity and the 1970s as the decade of quality for community colleges. Perhaps the 1980s will be considered the decade of integrity by reaffirming the community college mission through the balanced commitment of providing a quality <u>and</u> accessible education in a cost-effective manner.

Strategies

The purpose of the strategies developed as a result of the findings of this study is to provide suggestions which may prove useful to community colleges encountering problems associated with revenue changes similar to the problems encountered by the community colleges involved in the study. The strategies to some extent represent optimal solutions or situations. In no way should these strategies be considered absolute or applicable to all situations; rather, these strategies are intended to serve as a general framework. The effectiveness of any specific guidelines or strategies is largely contingent upon the

individual characteristics, circumstances, and environment of the community college. The strategies are as follows:

1. Community college personnel need to monitor continuously the variables affecting the college environment. A constant awareness of market factors, constituency support, available resources, and legislative priorities needs to be encouraged by the top management of the institution. Data collection and feedback mechanisms need to be reviewed and improved on an on-going basis. Consequently, information should be appropriately shared and used in the decision-making and planning processes.

2. The distinct role and mission of the community college must be clearly articulated to the community and to legislators. Community colleges need to become more assertive in communicating the important role they play in the economic development of local and state economies. In addition to increasing constituency and legislative support, this strategy is useful for increasing partnerships with business and industry. Economic development impact reports which demonstrate the role community colleges play in economic development can be cooperatively developed and distributed by state or local consortiums of community colleges.

3. A strong and clear sense of institutional mission and identity needs be developed and affirmed, if it is not already in place. The chief executive officer of the institution should play a leading role in involving institutional personnel in the process of establishing or reaffirming institutional mission and direction based on the goals of the college.

4. New efforts need to be directed toward diversifying revenue sources and investigating new or underutilized sources of revenue. The college foundation should play an active role in establishing linkages and organizing development efforts which encourage gifts and grants to the institution. Funds from outside agencies should be more actively sought if these sources have been underutilized in the past. Institutional studies of cost centers, programs, services, and activities can assist administrators in determining the feasibility of making some services self-supporting, implementing fees, or restructuring some of the ways the college organizes and delivers its services.

5. Alternatives to present staffing structures need to be explored. For example, options such as early retirement, part-time staffing, leaves witout pay, leaves with partial support for professional development, and alternative contracts can be made available to personnel.

6. Contingency planning needs to replace reactive responses; in addition, the long-range effects of short term responses to problems need to be weighed. Although the short-term solutions such as hiring freezes, across-the-board cuts, and deferred maintenance appear expedient and acceptable, in the long run they can cost the institution more in catch-up costs or in terms of damaged morale. Despite the highly interactive environment of community colleges which resists long-range planning, carefully developed plans can help to anticipate and to some extent prepare for the future.

7. Significant involvement of institutional personnel and constituencies needs to be maximized. Ongoing two-way communication should provide information to the total college environment. Consistent communication and involvement throughout the strategy development

process is essential to preserving morale and encouraging innovation by institutional personnel.

The strategies listed do not exhaust all possible suggestions that could contribute to maximizing the effectiveness of institutional adaptations to adjust to problems related to changes in revenues. Final solutions must be developed in concert with the characteristics, resources, policies, and environment of the community college.

Recommendation for Further Study

This study was limited to examining responses of community colleges which had experienced changes in sources of revenues. Although changes in enrollments were also examined, no deliberate attempt was made to correlate the two changes. There exists a need to determine the extent to which changes in revenues may affect enrollments in community colleges.

The study found that the external environment, particularly the political and legal environment, played a major role in influencing the range of responses to community colleges when faced with revenue changes. More state-wide financial studies of a longitudinal nature need to be made to ascertain the long-range impact of policy-making on community colleges. A related financial study regarding the results of greater diversification of revenue sources may also prove useful.

No attempts were made to rank, compare or contrast the community colleges involved in this study. Rather, each case was approached from the position of attempting to find out as much as possible from a variety of cases. A study which makes comparison related to the size, funding, and scope of community colleges may prove valuable.

Finally, further study needs to be directed towards the following question: To what extent do changes in revenues alter the mission of a community college? This study revealed that the type of strategies selected for dealing with changes in revenues can influence the mission of the institution. For example, a decision to raise tuition disproportionately can directly affect access for certain individuals. Also, cutbacks in certain non-instructional services, such as in the student services area, can detract from the total educational and developmental experiences students need. Further study regarding the effect certain strategies have on the philosophy, mission, and goals of institutions experiencing changes in revenue sources may help institutions develop criteria to assess the potential impact of certain types of management decision and strategies. There is a definite need to explore the relationship between administrative decisions and strategies and the degree to which the community colleges are fulfilling their missions.

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APPENDIX A
MEMBER INSTITUTIONS IN THE LEAGUE FOR INNOVATION IN THE COMMUNITY COLLEGE

Brookdale Community College
Lincroft, New Jersey

Central Piedmont Community College
Charlotte, North Carolina

Coast Community College District
Costa Mesa, California

Cuyahoga Community College
Cleveland, Ohio

Dallas County Community College District
Dallas, Texas

Delta College
University Center, Michigan

Foothill-DeAnza Community College District
Los Altos, Hills, California

Johnson County Community College
Overland Park, Kansas

Kern Community College District
Bakersfield, California

Kirkwood Community College
Cedar Rapids, Iowa

Lane Community College
Eugene, Oregon

Los Angeles Community College District
Los Angeles, California

Maricopa Community Colleges
Phoenix, Arizona

Miami-Dade Community College
Miami, Florida

Moraine Valley Community College
Palos Hills, Illinois

Peralta Community College District
Oakland, California

Santa Fe Community College
Gainesville, Florida

St. Louis Community College
St. Louis, Missouri

APPENDIX B
COMMUNITY COLLEGE SURVEY OF EFFECTIVE STRATEGIES

Dear Chancellor/President:

This survey is intended to measure your perceptions as to the effectiveness of specific strategies a community college might implement when experiencing a decline in sources of revenues. For the purpose of this survey, effectiveness will be defined in terms of how well the strategies listed below contribute to maintaining the overall goals of your institution. Please indicate if you have used the strategy listed in the last 3-4 years by circling Yes or No in the space provided. If Yes, please rate how effective you feel the strategy was; if No, please rate how effective you believe it would be if you tried it. Thank you very much.

Nancy Vader, University of Florida

The rating scale is:

1 - not at all effective
2 - below average in effectiveness
3 - about average in effectiveness
4 - above average in effectiveness
5 - extremely effective

STRATEGY	(circle one) Have you done this in the last 3-4 years?		(circle one) Degree of Effectiveness				
Increase the use of part-time faculty	Yes	No	1	2	3	4	5
Reduce the number of course sections	Yes	No	1	2	3	4	5
Raise tuition/student fees	Yes	No	1	2	3	4	5
Share staff among campuses or departments	Yes	No	1	2	3	4	5
Defer major maintenance expenditures	Yes	No	1	2	3	4	5
Initiate retirement options, such as early retirement	Yes	No	1	2	3	4	5
Institute across-the-board reductions	Yes	No	1	2	3	4	5

STRATEGY	Have you done this in the last 3-4 years?		Degree of Effectiveness				
Encourage staff and faculty development programs	Yes	No	1	2	3	4	5
Increase public relations efforts	Yes	No	1	2	3	4	5
Involve faculty and staff in the reallocation decision-making and planning process	Yes	No	1	2	3	4	5
Limit non-FTE-producing programs and services	Yes	No	1	2	3	4	5
Increase student recruitment efforts	Yes	No	1	2	3	4	5
Sell or rent unused or underutilized facilities	Yes	No	1	2	3	4	5
Institute a hiring freeze	Yes	No	1	2	3	4	5
Reassign faculty and staff	Yes	No	1	2	3	4	5
Attempt to make some activities self-support, such as TV/radio or continuing education	Yes	No	1	2	3	4	5
Raise student/faculty teaching ratio	Yes	No	1	2	3	4	5
Use up excess revenues/fund balance	Yes	No	1	2	3	4	5
Increase fundraising and development efforts	Yes	No	1	2	3	4	5
Limit/cap enrollment levels	Yes	No	1	2	3	4	5
Retrain faculty and staff	Yes	No	1	2	3	4	5
Reduce travel expenditures	Yes	No	1	2	3	4	5
Defer equipment purchases	Yes	No	1	2	3	4	5
Increase lobbying efforts	Yes	No	1	2	3	4	5
Review and redefine institutional mission and goals	Yes	No	1	2	3	4	5
Attempt raising the local millage level/taxes	Yes	No	1	2	3	4	5

STRATEGY	Have you done this in the last 3-4 years?		Degree of Effectiveness
Charge user fees for services such as testing	Yes	No	1 2 3 4 5
Reduce services such as library or tutoring	Yes	No	1 2 3 4 5
Implement cost-analysis studies	Yes	No	1 2 3 4 5
Encourage unpaid leaves of absence	Yes	No	1 2 3 4 5
Reduce non-instructional staff	Yes	No	1 2 3 4 5
Target reductions through an institution-wide program review process	Yes	No	1 2 3 4 5
Increase cooperative relations and linkages with business and industry	Yes	No	1 2 3 4 5
Review/change enrollment-driven funding formula	Yes	No	1 2 3 4 5
Reduce ongoing faculty and staff contractual commitments	Yes	No	1 2 3 4 5
Increase the recruitment of new student populations	Yes	No	1 2 3 4 5
Increase institutional long-term planning efforts	Yes	No	1 2 3 4 5
Attempt to reduce student attrition	Yes	No	1 2 3 4 5
Contract for services such as bookstore or daycare	Yes	No	1 2 3 4 5
Other:____________________	Yes	No	1 2 3 4 5
____________________	Yes	No	1 2 3 4 5

Please return by June 15, 1984. Thank you.

APPENDIX C
COMMUNITY COLLEGE INTERVIEW GUIDE

1. Introduction and purpose of study:

Nancy Vader, doctoral candidate at the University of Florida and on professional leave from Delta College, conducting this study for my dissertation with Dr. Wattenbarger at the University of Florida and in cooperation with the League for Innovation in the Community College and the National Association of College and University of Business Officers (NACUBO).

The purpose of this study is to determine the nature and impact of changes in sources of revenue at community colleges from 1979 through 1983, and to examine the effectiveness of the strategies implemented to adjust to the changes. Your institution was chosen because it has experienced greater than average changes in sources of revenues in comparison to the other League schools. You were specifically selected to interview because of your involvement in the development and implementation of the strategies at your institution.

(*Guarantee anonymity for the interviewee.)

Cite NACUBO data, effects of inflation, and trends in changes in sources of revenue at community colleges.

2. Information about the interviewee:

Name and official title:

Length of time in current position:

Previous positions and total length of time at the college:

General scope of responsibilities:

3. According to NACUBO financial data and institutional reports, the following changes in revenue have occurred at your institution from 1979 through 1983: (changes in revenue cited)

Do you agree?

Could you describe these changes in greater detail?

4. Do you feel that adjustments have been made or that problems have been created at your community college as a result of these changes in revenue? If so, what are some of the major problems attributed to changes in revenue at your institution? If not, please comment.

5. Some community colleges have implemented some specific strategies to adjust to changes in revenue. Please indicate if the strategy mentioned has been used at your institution. If so, how effective do you feel it has been?

Hiring freeze/unfilled positions

Increase part-time faculty use

Institute early retirement

Reassign/share faculty/staff

Retrain faculty/staff

Raise tuition

Increase fundraising/development efforts

Increase lobbying efforts

Implement user fees

Increase self-supporting activities

Improve retention

Increase recruitment efforts

Recruit new populations

Reduce course sections

Raise student/faculty ratio

Increase public relations

Defer maintenance/equipment purchases

Implement cost-analysis studies

Across-the-board cuts (or limits on increases)

Limit non-FTE-producing programs/services

Reduce travel/supply expenses

Increase faculty/staff development

Redefine mission/goals

Increase linkages with business/industry

Increase long-range planning

Promote faculty/staff improvement in the decision-making process

Program review (to improve, eliminate, identify new areas of need)

Other:

6. Are you aware of any criteria or order of institutional priorities used to guide the decisions made regarding reallocation strategies?

7. What do you feel the primary focus of the strategies has been (reallocation, reduction, retrenchment, etc.)?

8. How would you describe the degree of involvement of faculty and staff in the development and implementation of the decisions made regarding strategies for adjusting to changes in revenue?

9. Overall, how effective do you feel the strategies have been in terms of how well they contributed to maintaining the overall goals and mission of your institution?

10. What do you see as the particular "strengths" of your institution or factors that were to your institution's advantage in regard to adjusting to changes in revenue sources? (such as institutional characteristics, available resources, constituency support, leadership, etc.)

11. What do you see as "restrictive" factors in the environment or limitations beyond the control of the institution that have influenced the course of events? (such as events, circumstances, or legislation beyond the control of the college)

12. How would you describe where the college is today in relation to before the changes, and what do you predict for the future?

APPENDIX D
FIELD INTERVIEW GUIDE

A. PRE-SITE DATA COLLECTION

1. Documents reviewed prior to the site visitation: college catalog, self-study accreditation report, organizational chart and directory, institutional planning documents, mission statement, related internal reports (budget, enrollment reports).

2. Data reviewed prior to the site visitation in addition to institutional documents:

a) NACUBO report for the individual institution (includes revenue and expenditure data, enrollment data, size of service area, size of faculty and staff, etc.)

b) Relevant League or AACJC publications regarding the institution

c) Funding formula for the state in which the institution is located, current funding reports and studies

d) Results of the "Community College Survey of Effective Strategies"

B. SITE VISITATION DATA COLLECTION

1. Data needed for "Institutional Profile" section of data analysis and narrative:

a) size and scope of institution

b) governance stucture

c) when founded

d) growth patterns

e) funding formula; effect on mission

f) environment: political, economic, social

g) brief overview of significant chronological events/changes since the 1979 baseline year

2. Persons to be interviewed (using the "Community College Interview Guide")

a) President, Chancellor, or CEO

b) Chief budget officer

c) Executive vice-president

d) Campus provost

e) Foundation director

f) Chief student personnel services officer

g) Chief institutional planning officer

h) Chief academic officer

i) 2-3 deans/directors of programs most directly affected by revenue changes

j) 2-3 selected faculty/staff most directly affected by revenue changes

3. General impressions regarding the institution, the environment, and the nature and impact of the changes in revenues:

a) interviewer field notes

b) casual observations and conversations

c) informal and formal community feedback and literature

C. SITE VISITATION GUIDELINES FOR DATA ANALYSIS

1. Confirmation of data: the use of several sources (triangulation) such as NACUBO data, institutional reports, current studies/documents, and interviews

2. Reliability:

a) cross-check responses for consistency and stability of interpretation by interviewees

b) establish a decision-rule for data inclusion (such as 50% of the interviewees agree)

3. Validity: assess whether the actual responses reflect the actual practices, through cross-check documentation and through confirmation from other sources.

4. Data inclusion:

a) decision-rule

b) reliability and validity of data

c) cross-check of interviewee perceptions and responses with the perceptions of the League CEO's (from survey) and with the theoretical propositions developed from the literature review

d) suitability of data to analysis, display, and quantification

BIOGRAPHICAL SKETCH

Nancy J. Vader was born February 2, 1955, in Bay City, Michigan. She attended kindergarten through twelfth grade at Unionville-Sebewaing Area Schools in Unionville, Michigan. In 1976, she received the degree of Bachelor of Science with a major in communications and a minor in industrial psychology from Western Michigan University in Kalamazoo, Michigan. Upon graduation in 1976, Nancy began her professional career at Delta College, a two-year public community college in Michigan, as an admissions counselor. In 1977 she also assumed the responsibilities of Assistant Director of Center Services at Delta. From 1977 through 1982 she served as Coordinator of Center Services at Delta, assuming the major responsibilities for over 40 off-campus extension centers. During this time, she completed the requirements for the Master of Arts in educational administration from Central Michigan University (i.e., 1980). In 1980, she was also selected as a participant in the national leadership identification program for women in community colleges, "Leaders for the 80s." She received a Charles Stewart Mott Fellowship in Educational Administration in 1982 and began graduate studies at the University of Florida. From 1982 through 1984 she was a full-time graduate student and also a part-time graduate assistant in the Department of Educational Administration at the University of Florida. In 1984, she resumed her professional career at Delta College as Administrative Assistant to the Vice President.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

James L. Wattenbarger

James L. Wattenbarger, Chairman
Professor of
Educational Leadership

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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This dissertation was submitted to the Graduate Faculty of the College of Education and to the Graduate School and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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